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Parliament and the Railways

PARLIAMENT reassembled last Tuesday, and railwaymen will be looking anxiously for signs of the discussions to be expected on the White Paper proposals for railway reorganisation. As far as was known at the time of going to press, no dates for such discussions have yet been fixed. Some 15 Bills remain to be completed before the end of the present session, and both Houses seem likely to have enough business to occupy them for five or six weeks, so that the next session, which many political observers believe may be the last of the present Parliament, is not likely to begin until late November or early December. Time must be found in the near future in both Houses to consider the proposals for the changes in the organisation of British Railways. After that, it is hoped that the railways may be left free of political interference to work out the details. The fact that the White Paper proposals were submitted to various interested organisations before publication does not exclude some opposition. The General Council of the Trades Union Congress, for instance, made it clear that the setting-up of area boards did not meet with its approval. The need for the proposals, with or without amendment, to be approved by both Houses means that, even if the matter is given some priority, a considerable time must elapse before they reach a form on which a working organisation can be built. The report of the British Transport Commission for 1953, which is dealt with elsewhere in this issue, should be discussed, logically, before the White Paper. The report has appeared so late that it is hard to see, in view of developments since last January, its relevance to the present transport situation: no doubt, however, the disquieting financial position of the Commission will give scope for debate by both Houses.

Inter-Railway Conference in Johannesburg

CHIEF officers of the African railway systems south of the Sahara have been attending an inter-railway conference which opened in Johannesburg on October 2. It is proposed that this shall be the first of a series of annual conferences at which administrators of railways in Central and Southern Africa can meet and discuss technical matters of mutual interest. It is hoped that such meetings, held between one railway and another and not as intergovernmental conferences, may prove of practical value to all participants, not only in respect of present-day problems, but also in paving the way to closer working of all the railway administrations concerned. Subjects discussed at this year's session included the use of long welded rails, the working of condensing steam locomotives, the training of permanent way maintenance staff, the capacity of single-track lines, developments in mechanical refrigeration as applied to railway wagons, the use of non-corroding alloys in rolling stock, standardisation of rolling stock and equipment, and prevention of accidents.

Northern Ireland Transport to be Debated

AN opportunity for a full-dress debate on transport by the Northern Ireland House of Commons is afforded by a motion which has been tabled by two of its Members. Officials of the Ministry of Commerce have been studying the report of the joint committee of the Ulster Transport Authority and the Great Northern Railway which has investigated all operations of the two undertakings with the view of achieving economies. It is hoped, therefore, that Lord Glentoran, Minister of Commerce, will then give the House an indication of the policy recommended in the report. Closer integration of rail and road services, extension of diesel traction, fares and rates, branch lines, wages and salaries, and re-allocation of staff are some of the matters which the committee has been considering. The recent application by the Ulster Transport Authority for a new passenger fares structure, referred to in our October 8 and 15 issues, will probably be debated, particularly as one of the sponsors of the motion is concerned about the effect of proposed increases in season ticket rates on his many constituents who travel daily to work in Belfast. There may also be pressure on the Government to return road freight to private enterprise.

South African Railway Expansion

SOME impressive figures of the expansion of the South African Railways were given last week by Mr. E. G. Jansen, Governor-General of South Africa, when he opened the new workshops at Koedoespoort, near Pretoria. The railways have spent £280,000,000 on new works and replacement of worn-out material during the last nine years. Last year they paid out £87,500,000 in salaries and wages to the 203,000 persons on the payroll. One in every eight of the European population of the Union, it is estimated, depends on the South African Railways for his livelihood. The railways are the largest single consumer of goods manufactured in the Union; in 1953-54 their purchases totalled almost £65,500,000. Since 1939-40 the goods tonnage has risen from 38,500,000 to more than 71,000,000 tons a year and the number of passengers carried more than doubled; 30 per cent of the increase

in goods traffic has come about during the last five years. Mr. P. O. Sauer, Minister of Transport, at the opening ceremony commended the railways for doing much with the resources at their disposal and suggested that sympathy with their difficulties in handling traffic would be greater encouragement than incessant criticism. The Koedoespoort Workshops were described in our May 29, 1953, issue.

Co-operation in Railway Medical Services

THE scope of international co-operation in railway medical services and of British participation in these activities is shown in the Fifth Congress of the International Union of Railway Medical Services (Union Internationale des Services Medicaux des Chemins de Fer) held in Wiesbaden recently. The subject of the congress was gastro-duodenal ulcers amongst railway employees; the reporters were Dr. Fraser Mackenzie, Regional Medical Officer, British Railways, North Eastern Region, and Dr. Van Roy of the Belgian National Railways. Many papers were read by the chief medical officers of railways in a number of countries. Special emphasis was laid on the possible factors in the railway industry which may influence both the occurrence and the persistence of the ailment under discussion. The desirability also was debated of admitting to the railway service candidates with a previous history of peptic ulceration; emphasis was laid on the adjustment of working conditions in cases where this trouble had been previously diagnosed and treated. Consideration was also given to the precautions that could be taken in employing men liable to relapse.

Enlisting Swiss Public Interest

THE latest country to realise the value of encouraging public interest in its activities is Switzerland. Early this year the Swiss Federal Railways instituted a competition in which members of the public were invited to submit names for different pairs of trains, and in which a first prize of frs. 100 was offered for the most attractive suggestions. No fewer than 80,000 entries were received; moreover, they were of so interesting a nature that a number of the names submitted will be used on trains which did not figure in the contest. Among the names chosen are " Simplon-Riviera " and " Loetschberg-Riviera " for the fast early morning service from Geneva and Berne to Milan and Genoa, and the return evening service; " Bavaria " and " Rhone-Isar " for the fast through Geneva-Munich trains, and " Escalade," " Diplomate," " Helveticus," and "Diagonal " for four expresses in each direction between Zurich and Geneva. Another recent development is the naming of locomotives. The first two of the new Gotthard line 6,000 h.p. Co-Co electric locomotives are named *Uri* and *Ticino*, and carry on their sides coloured emblems of the cantons concerned; while all the latest Rhaetian Railway Bo-Bo locomotives also carry names of local significance.

European Container Services

THE International Container Exhibition held recently at Hanover has shown that a surprisingly high proportion of goods traffic already is being conveyed by that means. Many European railways showed examples of containers, but much more co-operation is needed if container traffic is to be able to cross frontiers unhampered by restrictions. At present some 150,000 containers are available for European traffic, and of these 53,000 are owned by the German Federal Railway. The containers fall into three types. These are the craned system as used in Britain and France; the roller system as used in Belgium, Germany, Holland, and Switzerland; and road-rail semi-trailers as used in France and Switzerland. These systems must be reconciled if a standard container for through traffic, capable of being handled by all European railways, is to be evolved. The German Federal Railway has developed special flat wagons carrying three 5-*tonne* containers each. The system used requires a special lorry or tractor for moving the containers by road but is nevertheless so satisfactory that suitable road vehicles have also been built in Holland and Sweden. The containers used with this system are of types adapted for various classes of goods, and may well prove to be suitable for use on international services generally.

Helicopters over the Channel

THE licence granted recently to Silver City Airways to operate helicopters on its car-ferry routes across the Channel marks the entry of this vehicle into a new field of competition. As reported in our issue of August 20, small helicopters will be used at first to carry freight on the routes, to be followed by passenger and mixed-cargo machines as they become available. As with present passenger-carrying helicopters, the impact on railway-provided services will be small at first, probably infinitesimal, but the first warning of a potentially powerful competitor has been given. While the new helicopters fly from the airfields at present used by Silver City Airways for fixed-wing services it is difficult to see that they have any advantage over conventional aircraft, but it is plain that when helicopter landing grounds are developed within cities the picture will change rapidly. A trial flight has already been made from Brussels to London, and an " all-stations " helicopter route between Belfast and London, calling at the Isle of Man, Liverpool, Manchester, Birmingham, and Northampton, has been mooted in the Irish press. The reply of the railways and of railway-controlled shipping lies in reasonable speed combined with comfort and cheapness.

A.T.C. Trials on British Railways

AN item of special interest in Lt.-Colonel G. R. S. Wilson's annual report for 1953, to which we referred briefly last week, was the news that the British Railways system of warning automatic train control, under service trial for some time on 50 track miles on the down main line between New Barnet and Huntingdon, is to be extended to cover the 210 track miles on the up and down Eastern Region line between Kings Cross and Grantham. The origin and development of this system, which in principle combines the former G.W.R. cab apparatus and indications with the magnetic transmission from the track applied by the L.M.S.R. between Bow and Southend, was given in detail in Colonel Wilson's report on the Harrow accident, issued in July last year. Experience gained since the trials were first in full progress at the end of 1950 has led to certain modifications in the details of the apparatus and although, to quote the present annual report, " its reliability has not yet reached the required standard, it is now sufficient to justify an extension of the scope of the trials." Of 59 accidents in 1953 due to signals not being observed, 13 might have been prevented by such control.

French Cross-Country Diesels

FOR a good many years now the important cross-country passenger services between Bordeaux and Clermont-Ferrand and Lyons have been worked by diesel railcars or twin sets of the French National Railways. At one time a change from one diesel car to another was needed at Clermont-Ferrand, but the principal daily service now runs right through to Lyons and requires about 540 min. for the 423 miles inclusive of 17 intermediate stops. This route has some exceptional grades for a principal route, particularly to the east of Brive, where eastbound cars ascend two stretches each of six miles at 1 in 40. The types of Renault cars which have been used could maintain a steady 26-28 m.p.h. uphill, and with the engine running at only 1,150/1,175 r.p.m. compared with the top rate of 1,500 r.p.m. Nowadays the latest 75-ton twin-car diesels of the S.N.C.F. are used. Half of these have two 300 b.h.p. Renault engines and Renault four-speed gearboxes; the other ten have one MGO 750 b.h.p. engine and Mekydro hydraulic drive. They are almost de luxe sets, with second class accommodation only and refreshment service. One car of the twin is a railcar with a driving position at the outer end; the second is a control trailer.

Sixth Year of State Transport

A FINAL net surplus of £4,200,000, after meeting central charges, is revealed by the report for 1953 of the British Transport Commission, published last Friday. The financial results are given in greater detail on other pages this week. The working surplus amounted to £59,400,000, £3,700,000 more than in 1952, but the greater impact of central charges, including capital redemption and other items, reduced the net surplus to the figure given, some £300,000 less than in 1952.

The report is very late in appearing this year, and in a preface the Commission says that this is a result of the pre-occupation of the comparatively small headquarters staff with important matters arising from the Transport Act of 1953. This excuse will no doubt be received with incredulity in some circles, but, late or not, the shorter report now issued in a new, and simpler, form, is much more readable than were its predecessors. It describes the year 1953 as one of change and stress, from which the Commission emerged with an organisation that had already been considerably remodelled, and with renewed confidence in the ability of the undertaking to perform the functions assigned to it in the country's economic life.

At the beginning of 1953, there was much uncertainty as to the effects of the Transport Bill, then before Parliament. It was feared that the disposal of the road haulage undertaking would exercise a disrupting effect, and important changes both in the organisation and membership of the Commission were to be expected. By the end of the year the changes involved in the abolition of all the Executives, save one, had been carried through without any serious dislocation. The provisions for the liquidation of British Road Services under the Transport Act, 1953, did not cause the amount of disturbance which had been feared, and the Road Haulage Executive achieved in its last year net traffic receipts of £8,900,000—the best results obtained by nationalised road haulage.

As the report emphasises, the Transport Act, 1953, brought about a change in the duties of the Commission. The Act of 1947 charged the Commission with the duty of providing or securing the provision of "an efficient, adequate, economical, and properly integrated system of public inland transport and port facilities within Great Britain. . . . Under the Transport Act, 1953, the general duty is limited to providing railway services for Great Britain and a coordinated system of passenger transport in the London area, together with certain other services and facilities. . . ." This change is taken by the Commission to reflect the move towards a more competitive climate which may affect the extent to which facilities of an unremunerative kind can be maintained, particularly in sparsely inhabited areas which have no hope of paying their way.

Charges schemes, it is emphasised, apply to maximum charges only, except in certain cases where this is not practicable or desirable, when the schemes authorise the Commission to make reasonable charges. The effect on the railways is that within the maximum charges they will be able to quote freely and competitively for traffic. Steps are being taken to bring into being closer commercial relationships with customers, and in this respect the report points out that the Transport Act, 1953, empowers the Transport Users' Consultative Committees to consider matters relating to services provided by bus companies controlled by the Commission. Privately-owned companies, under the same conditions of licensing, are not liable to this form of public control. Referring to the fact that fares increases are rarely obtained until several months after the events which give rise to the need for them, the report draws attention to another anomaly. The jurisdiction of the Transport Tribunal extends over both road and rail fares in the London area. Outside London the Transport Tribunal is responsible for fixing maximum passenger fares on the railways, whereas the road services are subject to the jurisdiction of the Licensing Authority for each particular area. This Authority, which also regulates the volume of road services to be licensed, fixes actual, not maximum, fares. There are thus two authorities controlling transport fares on two different bases in each area. Yet there is no liaison between them. The work entailed by these processes of public regulation is very great. During 1953 the Commission made several thousand appearances concerned with fares and charges or with the licensing of goods and passenger services, and the report states that the Commission hopes that, as confidence in its methods grows, it will become possible to discuss some means whereby the amount of time, energy, and expense absorbed by such matters may be appreciably reduced.

On the recommendations of the Select Committee on Nationalised Industries, the Commission feels that great care should be exercised in implementing proposals for a permanent machinery of Parliamentary scrutiny of the activities of a nationalised industry which operates in various fields of commercial activity under varying degrees of competition. Since 1948, also, the report states, the activities and organisation of the Commission have frequently been the subject of political differences. When the changes now in progress have taken effect, the Commission will need freedom from major disturbance and some years of stable progress. If this is not granted a decline in the morale of the industry is to be expected which will hinder recruitment of staff of the quality essential in the higher posts of management. The total staff decreased by over 15,000 during 1953, but increased wages and salaries, and so on, increased by £7,630,000 in a full year. In 1953, some £2,000,000 was authorised for expenditure on staff welfare, including new offices, hostels, rest rooms, catering, and other amenities.

Some £58,000,000 was spent on new rolling stock, vehicles, ships, and plant and £10,000,000 on land, engineering works, and buildings. The inadequacy of these figures is borne out by reference to the respective book values, which, for railway permanent way and structures, are £887,248,309. Expenditure under this heading was £6,404,610, or well under one per cent. For locomotives, rolling stock, plant and equipment, and so on, book values are £589,077,114, and expenditure was £37,344,339. This figure of over six per cent is still very low when the general state of rolling stock and the need for new equipment are borne in mind. Very little of this expenditure could be described as development. The report states, however, that the needs are now clearly assessed and expresses the hope that the phase of severely restricted technical betterment is ending. Among the schemes mentioned specifically are the electrification of suburban lines from Kings Cross and of the remaining Southern Region lines east of Reading-Portsmouth.

At the end of 1953, the accumulated arrears of building new railway coaches were 2,186 passenger-carrying and 1,441 non-passenger coaching vehicles. The total stock had fallen during the year, as had the seating capacity, and the total number of standard all-steel railway coaches in service was only 1,774; the effect of these arrears of new construction upon the ability to provide vehicles of the most modern type in the principal train services is obvious. Past restrictions on steel supplies caused the year's construction of new goods rolling stock to fall short of available building capacity by some 12,000 wagons. In all 1,136 coaching vehicles were put into service and 40,820 freight vehicles were constructed during 1953.

The report defines the main objectives which the Commission seeks to gain. The first of these is a loyal, contented, keen staff, followed by modernised equipment and an organisation capable of getting the best out of both. A commercial service imbued with drive, flexibility, and businesslike character is to go hand in hand with an operating policy best capable of exploiting the potentialities of the various means of transport available. Lastly, the Commission hopes for general recognition of the Commission's concern for public interests and its ability to serve them.

Looking at the report as a whole it is clear that the oft-repeated statement that the railways are losing money is quite untrue. British Railways produced a net working surplus of some £33,000,000 in 1953, well over half the working surplus of the Commission as a whole. It may well be that this is insufficient to make a proper contribu-

tion to central charges, but if the railways were still an ordinary commercial concern they would probably have been able to pay their way, although ordinary shareholders might have had a lean time.

As to the future, Sir Brian Robertson, Chairman of the Commission, has declared that when the present upheavals of organisation have settled down the Commission will be prepared fully to meet competition, and it does not " propose to wear kid gloves in the process." The way ahead is likely to be hard. Results for 1954, with the new wage and salary increases and unrest in the London Transport road services, are not encouraging, and the road services which did so much to improve the 1953 results are passing to private hands. The Commission, however, now has a chance to fight, and Sir Brian Robertson has summed up its attitude in a message to the staff, where he enjoins them to read the objectives of the Commission and do their utmost to see that those objectives are won.

An Allegation Refuted

THE fact that an allegation against a leading firm of British locomotive builders, Beyer Peacock & Co. Ltd., of late delivery of Beyer-Garratt locomotives to the Rhodesia Railways, and certain other inaccurate statements, should have been squarely refuted, is some compensation for the disquieting fact that the allegations ever should have been made. The fact is the more disquieting in that the statements were made at the recent conference of the National Union of Conservatives & Unionist Associations by an experienced politician, Mr. Walter Elliot, whose *obiter dicta* are accepted as the utterances of an elder statesman, as is only too clear from the extract from *The Financial Times* given on another page.

During the Conservative conference, in a debate on Commonwealth and world trade, Mr. Elliot saw fit to remark that in Southern Rhodesia development was being held up because goods ordered in Britain were not arriving. How far this may be true of deliveries other than railway material we are not in a position to say. He then added quite gratuitously, that of 16 locomotives which should have been delivered between June and September, 1954, only one had arrived and that French locomotives which cost £10,000 more than the British type had been ordered because the Rhodesia Railways despaired of getting delivery from Great Britain. " This," he added, " is the sort of delay which needs the urgent attention of the British Government."

The facts of the case, in so far as they concern Beyer Peacock & Co. Ltd., as the suppliers of by far the greatest proportion of steam motive power on the Rhodesia Railways, are made clear by Mr. H. Wilmot, Chairman & Managing Director of the company, in a letter published in our correspondence columns this week. It is quite clear, not only, as we pointed out recently, that reports of late delivery of the class " 20 " locomotives, the latest batch of Beyer-Garratts, have been exaggerated; they are, in fact, unfounded. It is equally clear that, so far from the Rhodesia Railways having placed orders recently with French firms because they despaired of getting delivery from Great Britain, Beyer Peacock & Co. Ltd., at the express wish of the Rhodesian authorities, on a previous occasion, some four years ago, in the case of an order long since completed, showed very considerable skill and initiative in arranging to sub-contract with French licencees for some Beyer-Garratt locomotives. This was done at an actual extra cost, or premium for early delivery, which was a mere fraction of the additional £10,000 mentioned by Mr. Elliot. It is also clear that the Rhodesia Railways authorities, including Sir Arthur Griffin, until recently Chairman of the Rhodesia Railways Board and formerly General Manager of the system, not only have been satisfied with the rate of delivery in the circumstances, but actually commended Beyer Peacock & Co. Ltd. for its skill in negotiating a satisfactory agreement with the French builders in the case of " 15 " class locomotives, which also resulted in quicker delivery. We agree with Mr. Wilmot that no Government department by interposing its influence could have secured better results.

It may be asked why Mr. Elliot said what he did. The occasion was hardly one calling for a specific statement on matters such as delivery of locomotives; and if such a statement were thought necessary, the facts could have been checked with those responsible—with the builders in this case, as Mr. Wilmot suggests. The fact remains, however, that there have been many allegations of late deliveries by British builders of material to railways overseas. We do not know the source of Mr. Elliot's information, and can only hope that, whilst the information was accepted by Mr. Elliot in all good faith, the matter was simply a misunderstanding.

Unfortunately allegations, even after refutation, continue to be believed—largely by those who are not unwilling to believe them. Others are apt to take them at their face value. It is strange indeed that so well-informed a journal as *The Financial Times* should have gone out of its way to treat Mr. Elliot's utterances with such respect and make them the occasion of a sermon to British exporters who by implication included Beyer Peacock & Co. Ltd., to which firm it is quite inapplicable. Mr. Elliot, doubtless with the best of intentions, has done not a little harm to British trade, and to himself as a man whose views are to be heard with respect on matters of such vital importance to this country and to railways overseas as the British locomotive export industry.

East African Railways Lightweight Stock

THE application of aluminium in railway carriage construction has grown considerably during the past 25 years. Originally its uses were confined to interior fittings, and other non-stress-bearing parts. Faced with increasing operating costs, railway administrations are paying much attention to the use of lightweight stock to increase the payload ratio. In recent years, lightweight steel stock of integral construction has been used, and it may be that with normal methods of steel construction a definite minimum weight limit has been reached. As the East African Railways & Harbours have a number of lightweight all steel carriages already in service, this may be the view of the administration, and one which prompted it to place an order with the Metropolitan-Cammell Carriage & Wagon Co. Ltd., for 34 first class coaches of light-alloy construction.

The design of this stock was discussed in a paper delivered before the Institution of Locomotive Engineers last Wednesday by Mr. J. F. Thring, Chief Stress Analyst, Metropolitan-Cammell Carriage & Wagon Co. Ltd. He considers that to reduce the weight of all-steel stock below that at present obtained would entail expensive production methods, a greater number of component parts, and a possible reduction in the useful life of such vehicles. Much experience has been gained in the production of aluminium coaching stock, and it is nearly always possible to produce a structure considerably lighter than a comparable design in steel. This results in savings in power on long gradients and in reduced maintenance—factors of particular importance in the conditions met in East Africa.

The material selected for the greater part of the structure was a heat-treatable alloy of aluminium containing silicon and magnesium, complying with the requirements of B.S. specification for aluminium alloys H.10. It has good working properties, and can be welded for non-structural purposes. There was no revolutionary departure from normal modern practice in the break-down of the body structure, but full advantage was taken of the scope affected by the layout of the body sides, to incorporate a rectangular framed truss as the main load carrying structure. The build-up of the body is of riveted construction, welding being confined to non-structural locations. Welding, says Mr. Thring, is practicable, but the expense of installing plant for heat treatment of large components after welding is not at present justified by the number of carriages required to be built of light alloy; this affected both the type of construction and materials to be employed.

The material, H.E.10, was selected especially for the

main structure because of its resistance to corrosion, and the range of conditions of heat treatment in which the alloy is available. Various conditions of hardness were called for, which were decided by the amount of work required to be done on the particular component before final assembly. The rolling stock is being placed in service unpainted, and one of the difficulties experienced during the erection of the panels which were secured by alloy rivets to the frame members, was the development of a technique which ensures a perfectly flat exterior surface. A number of experiments were carried out, and the difficulty was overcome by evolving a countersinking cutter which gave an accurate and controlled depth of cut and inserting the rivets, which were a specially selected fine grain material, from the outside.

On the subject of weight saving, Mr. Thring compares the new coaches with all-steel second class coaches designed recently by the same builders for the East African Railways & Harbours which are 2 ft. shorter and have a total pivot load of 21·05 tons, compared with a pivot load of the aluminium alloy stock which is 16·35 tons, a saving of 4·7 tons. In dealing briefly with some of the aspects of design and testing procedure of the new stock he points out that the present design involved very much more than drawing office work. Designers and builders were faced with a new challenge to improve structural efficiency without loss of reliability, useful life or availability; and it was possible that railway carriage design was about to experience a metamorphosis as far-reaching as the change to all-steel construction earlier in this century.

Industrial Relations in Transport

A BELIEF that the greatest need of the transport industry is a long period of peace and stability, untroubled by any disturbance, whether political, economic, military, or industrial, was expressed recently by Mr. Frank Gilbert, Chief Officer (Staff), British Transport Commission, in a paper read to the Merseyside & District Section of the Institute of Transport. The subject of industrial relations, says Mr. Gilbert, affects every facet of the transport world, the lives of hundreds of thousands of workers engaged in transport, and, indirectly, has its impact on the industry and commerce of the whole nation. Industrial relations, particularly on the railways, have been built up the hard way, and over the years have been developed to meet the changing needs of the times. He holds firmly to the view that the road travelled, and the stage which has been reached, in the development of industrial relations, has been of inestimable value to the transport industry as well as to the workers themselves.

Attention is drawn by Mr. Gilbert to the very few official and national industrial disputes that have taken place in transport. There has been no official national railway strike in Britain since the general strike of 1926—well over 28 years ago. In no other industry does the threat of industrial unrest arouse such public interest, or obtain such publicity, as in transport. As to the labour employed by the British Transport Commission, he quotes the annual report of the Commission for 1952 as declaring that almost the whole staff of the undertaking is covered by machinery of negotiation for the settlement of terms and conditions of employment. During 1952, 16,960 man-days were lost through stoppages of work. This represents one man-day per 15,000 man-days' work—less than 1 per cent of the 1,800,000 days lost through industrial disputes in all civil employment in the United Kingdom, although the staff of the Commission is some 4 per cent of the total.

In all industries in 1953 there were 1,746 disputes involving 1,374,000 workers, and 2,184,000 working days were lost. For railways, employing some 600,000 men, the comparable figures were two disputes involving 300 workmen. Passing to 1954, Mr. Gilbert mentions the series of unofficial disputes arising from the introduction of certain additional lodging turns, a measure having the approval of the headquarters of the two trades unions concerned, the National Union of Railwaymen and the Associated Society of Locomotive Engineers & Firemen. This matter, he considers, has far-reaching implications, as the strikers discredited their leaders and aimed a damaging blow at the system of collective bargaining built up in the industry. The unions themselves have power to apply sanctions against their members in cases such as these, but, Mr. Gilbert adds, the executive committees seem reluctant to apply sanctions or penalties. Such reluctance, he considers, can do no good to the industry, nor can it enhance the prestige of the union involved. He asks whether the railwaymen involved stopped to consider the diversion of traffic from British Railways, perhaps permanently, caused by their action, and the consequent repercussions on employment and wages. At the same time he declares his admiration for the sterling work of the very great majority of transport workers of all kinds—sound, stable, reliable people who deserve good leadership.

The power and influence of the trades unions concerned are stressed. The N.U.R. is reported to have assets worth over £5,000,000 and to have some 378,000 members. The Transport Salaried Staffs' Association has over 90,000 members and funds of at least £1,000,000. The A.S.L.E.F. has 75,000 members and the Transport & General Workers' Union has some 1,250,000. Individually and collectively these unions possess great power which can be wielded for good or ill. Their existence and position is recognised in many of the provisions of the various Acts of Parliament which control the transport industry, and the Transport Act, 1947, provides that the Commission has a duty to consult with any organisation which may seem to it to be appropriate, to conclude such agreements as may appear to be desirable on various subjects. Subjects mentioned are terms and conditions of employment, measures affecting the safety, health, and welfare of persons employed by the Commission, and other matters of mutual interest, including efficiency in the operation of the services. Section 96 of that Act specifically mentions the three railway trades unions. Both the 1947 and 1953 Acts make reference to the inclusion in the membership of the Commission of persons who have had experience in the organisation of workers.

The rôle of the trades unions today has changed, says Mr. Gilbert, and it has also widened. The new rôle should carry with it a very profound sense of responsibility at all levels and should be coupled with a willingness to forsake outworn or restrictive customs which are no longer in keeping with modern trends. This does not mean that trades unions should interfere with the functions of the management as far as management itself is concerned. The managerial function should not be surrendered to any other party or interest.

Turning to the machinery of negotiation, Mr. Gilbert points out that on British Railways there are five sectional councils for each of the six Regions and on each council there are 12 elected representatives of the staff—360 people in all on the staff side. Local departmental committees may be set up, with four members on each side, at places where 50 or more staff are employed. There are some 2,000 of these committees, also railway shop committees and line committees. The National Wages Board, which lasted from 1919 until 1934, was replaced on March 1, 1935, by the Railway Staff National Tribunal. This has three members; the Chairman is appointed by agreement between the parties, and the other two members represent the management and the trades unions respectively. Decisions of the tribunal are not binding. Similar provisions, varying in detail, apply to other divisions of the transport industry.

This machinery should be kept under review to ensure that it remains in line with current requirements. A suggestion was made recently that all negotiating machinery ought to provide for finality by reference to arbitration, and Mr. Gilbert thinks this proposal will come to the fore again. On salary and wage structures, he declares that properly constituted structures of this type, with an efficient, smooth-running machinery of negotiation, must both exist if there is to be a loyal and contented staff.

LETTERS TO THE EDITOR

(The Editor is not responsible for opinions of correspondents)

Rhodesia Railways

October 14

SIR,—In view of the report of the Rt. Hon. Walter Elliot's statement about locomotives and Southern Rhodesia at the Conservative Party Conference at Blackpool in October [See *The Times* report dated October 8, and *The Financial Times* comment under "Men and Matters" of October 11, reproduced on page 471] the following statement of facts may be appropriate:—

(1) This company can reasonably assume an interest in the comments, for since the war it has supplied in numbers of locomotives 80 per cent of all locomotives imported into Rhodesia. The proportion of tractive effort is much higher when it is remembered that each of the locomotives constructed by Beyer Peacock is roughly equivalent in power to two of the straight engines imported from Germany or from Canada.

(2) More than 60 per cent of the total tractive effort on the Rhodesia Railways is from locomotives supplied by this company.

(3) The comments we make are only in respect of this company and do not apply to any other contracting party with the Rhodesia Railways who may have small orders for locomotives from time to time. So far as we understand the only large locomotive order other than with this company is one for 23 diesel-electrics.

(4) The late Chairman of the Rhodesia Railways Board and former General Manager of the Rhodesia Railways, Sir Arthur Griffin, K.C.I.E., K.B.E., has stated in public that the deliveries of locomotives have been quite good and reasonable in all the circumstances.

(5) The current order for locomotives now being completed in the Manchester works of our company is for 15 of a new class designated class "20". These will be the largest locomotives ever imported into Rhodesia and are of an entirely new design. The order was placed in early 1952, and the official order provides for completion at our works of the first locomotive in June, 1954. June 1954 was an interpretation of our offer of "about 2½ years." The date of the order was January 30, 1952, so 2½ years would be July 31, 1954. The first locomotive was steamed at our works in the first week of August, 1954, which may reasonably be regarded as on time. Delivery is proceeding at the contract rate of one a week.

(6) Deliveries are made in Britain to the Agents of the Rhodesia Railways. The Rhodesia Railways do their own shipping from Britain to Rhodesia and the contractor has no control over shipping arrangements.

(7) It is not understood what class of locomotive is referred to where both *The Times* and *The Financial Times* mention 16. So far as our records go Rhodesia has not ordered such a number.

(8) With regard to the comment about French locomotives costing £10,000 more, we believe this can only refer to locomotives of the "15" class which, because of the full order books of the British locomotive industry at that time, could not be built in Britain to suit the amazing rate of development and expansion of the Rhodesia Railways. At the express desire of the Rhodesian authorities we accepted the contract and sub-contracted it to our licencees in France, the Société Franco-Belge de Matériel de Chemins de Fer. It should be understood that these locomotives are of Beyer Peacock type; they are to our drawings and our inspection; and the contract was taken by us and sub-contracted.

The suggestion that these were ordered because of "despair in Southern Rhodesia" is quite removed from the realm of fact. The statement that these locomotives cost £10,000 more than they would have cost had identical engines been made in our own factory is inaccurate. The actual additional cost (or premium for early delivery) was a mere fraction of the figure stated in spite of higher costs of construction ruling in France at the time, and the General Manager of the Rhodesia Railways cabled this company his appreciation for the success of our efforts in getting a price from France so little higher than the British price. This order was placed in 1950 and completed in 1952, and it is therefore somewhat difficult to understand a reference to it at this late date.

(9) The reference to the contract mentioned is still more obscure when it is reported that Mr. Walter Elliot stated that "this was the sort of delay which needed the urgent attention of the British Government." As a matter of fact, the particular contract to which we assume the comment refers was a good example of collaboration between Rhodesia, Britain, and France, and there has been no suggestion from Rhodesia that they were dissatisfied with our efforts in this matter. We supplied to France the drawings and a large number of parts to make these locomotives identical with the same class previously supplied by us, and we appointed a Continental Inspector from our own staff to supervise the job. We cannot see how any Government department by interposing its influence could have improved the actual results achieved.

(10) The Rhodesia Railways have passed through a period of phenomenal expansion; their total traffics have increased by 311 per cent between the years 1928 and 1951, and have doubled between the years 1947 and 1954. It is interesting to note that practically the whole of the locomotive power required to achieve these amazing traffic results has been supplied by this company.

(11) In view of our long association and friendly relationships with Rhodesia and its railways it is regretted that wide publicity should be given to comments which, so far as this company is concerned, are (*a*) inaccurate, (*b*) harmful to British export trade, and (*c*) made without reference to the builders primarily responsible who could, had they been consulted, have corrected the information before it was given such wide publicity.

For and on behalf of
Beyer, Peacock & Co. Ltd.
H. WILMOT
Chairman & Managing Director

Abbey House, S.W.1

Punctuality

September 20

SIR,—During the past 20 months I have travelled on main-line trains at intervals of roughly a fortnight. Since the beginning of this year, 32 journeys totalling 4,450 miles have produced an average late arrival of 6·7 min.; even with the charitable deduction of two runs in which weather conditions were abnormal the average for the remainder is 5·6 min. Were the 1953 journeys to be included, the standard of punctuality would be even lower.

By contrast, in a broken period before the war, but mainly comprised between October, 1936, and September, 1939, 253 substantially faster journeys aggregating 16,463 miles resulted in an average lateness of 0·3 min. Furthermore, the contemporary percentage of arrivals on time or 1 min. late (the only reasonable basis for assessment) was 28·1 per cent compared with 54·5 per cent prewar.

In my recent experience in only one instance did the load exceed that laid down for the timing, and even then the train involved, the up "Tees-Tyne Pullman," would have arrived on time but for three p.w.s. and, far worse, a string of signal checks between Rossington and Retford. The picture has been characterised by drivers' strenuous efforts in the face of pretty grim odds to get back to the path and by a negligible amount of poor running caused by engines being out of condition. By far the greatest proportion of the delays has arisen from signals and overtime at stations.

Yours faithfully,
J. E. L. SKELTON

9, Keble House, Manor Fields, S.W.15

THE SCRAP HEAP

Peckadillo

For tearing a film poster from the wall of an Underground station a man was fined 5s. at a London police court. He said: "My lady friend wanted a picture of Gregory Peck."—*From the "Daily Mail."*

On the Wrong Lines

Mr. Malcolm McCorquodale has told of a printer's error in the days when his firm did all the printing for the L.M.S.R.

New regulations for the whole system had been printed and circulated throughout the country. It was only six weeks afterwards that it was found that in Regulation 221 "in the case of fog three detonators are to be placed on the line," the word "detonators" had been printed "directors."—*From "The Star."*

Irony on Wheels

There is good news for some passengers if the report be true that soon the "Orient Express" will be running on six instead of a meagre five days every week. What a nuisance it must be, meanwhile, to forget the day it is and to find oneself stranded for another 24 hr. in Paris. That passengers on the "Orient Express" decide to travel at the last possible moment and then do so in the utmost comfort and with no difficulties over visas or currency is well known to all romantic stay-at-homes. . . . Attendants speaking all known . . . languages explain the intricacies of the exquisite lighting system in our private compartment. Country by country the dining car offers appropriate changes, all perfect, of food and wine. At the frontiers courteous Customs officers look in with apologetic salutes. If an occasional shot rings out one knows that nothing worse is happening than that a Balkan stateman's incognito has been seen through or that the lady spy has only herself to blame. By the time we reach the Golden Horn we are feeling so cosmopolitan that we ask languidly when the next connection worth our patronage—is it the "Taurus Express"?—leaves for Baghdad.

Reality may not, nowadays, be quite like that; but fiction is much nicer than truth and, besides, our imaginings may be true.—*From "The Times."*

Nicknames for Trains

Trains have been nicknamed since the days of the *Rocket*. . . Even famous trains like the South African Railways "Blue Train" or "Orange Express" have not escaped. The "Blue Train" is also known as the "Duodenal Express" because it runs for the wealthy, the good eaters, and the comfort-hungry, in fact the people who suffer from ulcers. The "Orange Express" has become the "Marmalade Express". . .

Here are a few nicknames given to trains by the S.A.R. & H. railway staff and the travelling public: "Boomerang" (always has to be returned), "Recoil" (short for oil and fuel), "Tipperary" (long distance), "The Spook" (night train), "Dronkie" (drunks travel on it), "Green Mamba" (fast), "White Elephant" (runs empty sometimes), and "Magayimbongola" (killer of donkeys). —*From the "South African Railway News."*

Starborne Scrounger

A railwayman who works at a station in central France has reported that he saw the pilot of a 12-ft. torpedo-shaped flying machine standing outside a nearby diesel-oil store. He asked the man what he wanted, and the man said something about "*gasoil*." From this exchange the railwayman deduced that the pilot sought to refuel his machine at the expense of the railway and went off to tell the stationmaster. . . . He was neither horrified at the apparition of the machine nor alarmed at the appearance of its pilot—although he could not say for certain whether the pilot was covered in hair, or whether he was wearing a very hairy overcoat; and he did not attempt to get in touch with the police. He did not bother even to ask the pilot from which planet he had come, or whither he was bound. Like a good *fonctionnaire*, he simply passed the man's request on through the correct channels, and secretly reached the conclusion that the pilot was trying to get something for nothing.

If the railwayman was correct in his assumption that the pilot needed *gasoil*, apparently he did not need it very urgently; for while the railwayman was walking away to put his request to the stationmaster, the hairy pilot got back into his machine and vanished into space.—*From "The Daily Telegraph."*

Sparrow Derails Train

A sparrow wedged in the points caused the derailment of a train near Roskilde, Danish State Railways. There were no casualties.—*From "The Evening News."*

Delays at the Duchy Border

Main-Line and local trains were delayed today by a swan which landed on the Royal Albert Bridge, which spans the River Tamar, linking Devon and Cornwall.

Two policemen caught the swan and released it at the river's edge.—*From "The Star."*

Railway Rivals

When the British Railways
Liberate the Regions,
When the London Midland
Casts its galling chains,
When the free North Eastern
Jazzes up its legions,
Will the British public join in playing trains?

When the gorgeous Western
Boasts superb headquarters,
When the glamorous Southern
Runs "Belles" of new design,
When they clothe in splendour
Booking clerks and porters,
Will each passenger support his favourite railway line?

When the roaring Scottish
The tourist strives to capture,
While the streamlined Eastern
Pants for world-wide fame,
Will the travelling public
Share the railways' rapture,
Enter with the staff into the spirit of the game?

Or when gilded Regions
From the Treasury borrow,
Healthily competing
In glittering display,
Won't the British public
Merely note with sorrow,
Railway fares tomorrow will be higher than today?

MERCUTIO, *writing in "The Manchester Guardian."*

Hedged In

Photo] [*Eastern Region Magazine*

The British Railways totem in the floral display at Seven Kings, one of the winners in the Eastern Region 1954 *station gardens competition*

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

INDIA

Opening of Chunar-Robertsgunj Line

On July 11 the Prime Minister of India inaugurated the Chunar-Robertsgunj line in the Mirzapur district of Uttar Pradesh. At Chunar Station, which was decorated with flags, he operated a miniature lever which lowered the starting signal. As the train moved a few yards towards Robertsgunj the Prime Minister declared open the railway. The train then stopped to enable him to entrain and journey over the line.

The line, referred to in our August 27 issue, will assist the construction of the Rihand Dam in Mirzapur District and the Government cement factory at Churk. With cheap power available it is expected that new industries will spring up in the area for the production of aluminium goods, caustic soda, chlorine, paper, textiles, fertilisers and plastics.

CANADA

New Branch in Northern Ontario

The Canadian Pacific Railway is about to open up a new and promising mining area in north-western Ontario by constructing a 40-mile branch from Struthers, on the main line 33 miles west of White River, north to Geco, a point north of Manitouwadge Lake.

The Canadian Pacific Railway has authority by virtue of its 1881 Charter of incorporation to construct from time to time branch lines of railway from any point on its main line west of Callander, Ontario. The new line will provide ready access to the Great Lakes and to the entire railway system of Canada and the United States for the base metals to be mined in this area. The Manitouwadge area has been closely studied by the Canadian Pacific for a long time. Last December, engineers made an air and land reconnaissance, and a more detailed reconnaissance was made in March. Survey gangs completed their work in August.

Development of copper and zinc deposits in the district require a railway to enable the mining companies to ship concentrates to the smelters. These ores also yield sulphides used in the manufacture of pulp and paper. There are also considerable stands of pulpwood for shipment by rail to large mills on the Canadian Pacific main line along the north shore of Lake Superior.

ARGENTINA

New Rail-River Service

The General Mitre Railway, in combination with the Argentine National River Fleet, has established a new service betwen Buenos Aires and Formosa, using the railway between Buenos Aires and Santa Fe, where passengers change to the river steamer for the remainder of the journey.

Remarkable Accident at Cordoba

A remarkable accident took place on the General Belgrano Railway at Cordoba on September 6 when a heavy goods locomotive and 29 loaded wagons got out of control on an incline while shunting at 17 de Octubre Station. Passing Garita goods station, they travelled at increasing speed over the branch which connects 17 de Octubre with the Cordoba station of the General Mitre Railway, crossing Puente Negro Bridge, barred to this type of locomotive, without incident. Collisions with vehicles at level crossings were narrowly avoided.

On arrival at the goods yard of the General Mitre Railway, the driver and fireman jumped to safety on seeing a serious crash inevitable. The first collision was with a loaded cattle wagon which was destroyed, the second with a railcar which was thrown against a cut of wagons standing on a parallel track, and the third with a shunting engine and seven wagons of the General Mitre Railway. Most of the wagons of both railways were destroyed, some of them remaining vertical; the locomotives were badly damaged; most of the goods was lost; and a weighing office was demolished. Had the night express " Rayo de Sol " from Buenos Aires not reached Cordoba late the material damage might have been even greater.

Semi-Fast Working in New South Wales

Photo] [John Buckland

Semi-fast train leaving Moss Vale, hauled by " C 36 " class 4–6–0 locomotive. Note unusual combination of electric (upper quadrant) three-position and mechanical (lower quadrant) two-position signals, standard N.S.W.R. practice

BRAZIL

Rio Grande Do Sul Railway

The State Legislative Assembly has approved a bill to place the administration of the Rio Grande do Sul Railway in the hands of a council to be composed of representatives of the Federal Government, the state industrial, agricultural and engineering associations, and the railway employees. A special credit of 100,000,000 cruzeiros (£2,000,000) has been allotted to create and maintain reserves of essential materials. The existing contract of lease of the railway by the Federal Government is to be revised.

UNITED STATES

Pennsylvania Offices in Philadelphia

To aid the development of Penn Centre, the projected building to be erected in Philadelphia on the site of the now abandoned Broad Street Station of the Pennsylvania Railroad at an estimated cost of $100,000,000, the P.R.R. has sold its Suburban Station building in the city for $35,000,000. The purchaser, a Philadelphia contractor, proposes to buy an adjacent plot of ground, and build on it a transporta-

tion centre for air lines, bus lines, and other agencies, including ticket and reservation offices and baggage handling facilities. Part of this building will be a tower of eight or more floors, into which the P.RR. will move its executive and system offices from the Suburban Station building. The offices vacated will be leased to other tenants, but the railway will remain in possession of the station underneath, which it will continue to operate as before.

Another Rock Island Cut-off

The Chicago, Rock Island & Pacific Railroad has completed another important track relocation on its main line between Des Moines and Omaha, additional to the much longer Atlantic cut-off opened last year. The latest project, near Adair, Iowa, 75 miles east of Omaha, has involved building just over 6½ miles of new line; it saves ⅞-mile in distance, reduces gradients and curvature, and has cost $1,252,000.

SWITZERLAND

New Suspension Lines

Among other new suspension lines that have been opened during the past year is a *téléphérique* from Wengen, in the Bernese Oberland, to the summit of the Männlichen, an ascent of 3,050 ft. The two cars carry 40 persons apiece, and make the journey of 1,805 yd. in 8 min.

Of smaller lines, it is expected to open before the start of the winter sports season the new *téléphérique* from Corviglia, the upper terminus of the St. Moritz-Chanterella-Corviglia funicular, to the summit of the Piz Nair, 10,145 ft. high.

A chair lift opened this year from the Grand St. Bernard to the summit of the Chenalette, 9,480 ft. above the sea, at present holds the Swiss record for altitude with this type of transport.

Chair Lifts with Enclosed Cars

The *gondelbahn*, the chair lift on which passengers are carried up in completely enclosed four-seater cars, is proving so popular that many lines of this type are being planned. Complete protection is afforded from the weather; from the operating aspect the success of this type of transport is due to the fact that cars can be sent up or down in any numbers as required to meet traffic demands. The potential carrying capacity thus is much greater than that of even the most massive *téléphérique* on which two cars only, one up and one down, can be in motion at one time, though each may have a passenger complement of up to 40.

The first *gondelbahn* was brought into operation several years ago in two sections between Crans (Montana), above the Rhone valley, and Bellalui; this is 4,916 yd. long, ascends 3,356 ft., and terminates 8,300 ft. above sea level. This year a similar line has been opened from Bad Ragaz, in the upper Rhine valley, to Pardiel; with a length of 3,521 yd., and vertical rise of 3,675 ft., also in two stages; a total of 350 passengers per hr. can be carried up or down.

This winter a third line is to be opened between Kriens, a suburb of Lucerne, and the plateau of Fräkmüntegg, at the base of the limestone crags of Pilatus; and the building of a fourth has been authorised from Saas-Fee, in the Valais, up to the Langefluh glacier. The first section of this line, from the Saas-Fee station at 5,900 ft. to the Spielbodenalp, 8,040 ft., 2,588 yd. long, is already in use; the second section, finishing at an altitude of 9,420 ft., is expected to open to traffic in the Spring of 1955.

FRANCE

Level Crossing Protection

On the Bordeaux-Aurillac road four level crossings have been equipped experimentally with automatically-operated half-gates, flashing lights, and bells. When a train passes a pedal-operated control switch situated some distance from the level crossing, the lights start to flash, the bell rings and then the half gates fall across the road on the side of the road appropriate to the direction of traffic.

The situation of the control switch allows a margin of 25 sec. between the passage of the fastest trains and their arrival at the crossing; this margin is relatively longer with slower trains. A second switch is placed 50 m. (164 ft.) from the crossing on the other side, and the gates are lifted and the lights extinguished when the train has passed this point. The gates themselves are operated by a small 12-V. motor working through a gear train, and the current is usually taken from the local supply at 125 or 220 V.; if there is a failure, battery operation is automatically switched in.

Diesel-Electric Shops at Epernay

In view of the growing use of diesel-electric traction, it was decided, in 1951, to adapt a section of the steam locomotive shops at Epernay for the maintenance and repair of diesel-electric engines. Two main shops were allocated to diesel repairs. The work included the transfer of one of the boiler shops and the brake and compressor facilities to another part of the depot.

The new diesel section is equipped with six overhead cranes varying in power from 1 to 15 *tonnes*, and is able to cope with all types of repair to diesel engines. The facilities will allow it to handle up to 18 diesel-electric engines a month when required.

GREECE

High-Capacity Tipping Wagons

During the past few months the State Railways have put into traffic 135 double-bogie tipping wagons of 52 tons capacity, and 2,400 cub. ft. content. The side-tipping body has a length of 36 ft. and a width of 9 ft. 10 in. Tipping is effected by air-actuated hydraulic rams, the air being supplied from the brake system at 72 lb. pressure. In the unloading position with the body tipped, the full-length side doors hang down vertically from top hinges, and the load is discharged between the door and the wagon. The time taken to discharge 50 tons of coal and return the wagon body to the horizontal locked position is 5¾ min. All these wagons were supplied from Germany.

Express Diesel Service in Norway

The Oslo-Trondheim "Dovre Express" of the Norwegian State Railways. The 1,000-b.h.p. three-car set is one of a batch built by Stroemmens Verksted A.S., with Paxman engines and Voith transmission

British Transport Commission Results for 1953

Revenue surplus achieved for third year in succession: deficiency in London area contribution to central charges major element in accumulated deficit

THE Sixth Annual Report of the British Transport Commission, submitted last week to the Minister of Transport & Civil Aviation by the Chairman, Sir Brian Robertson, shows that despite the fact that 1953 was a year of change and stress, a surplus of £7·6 million was recorded, a decrease of only £·8 million on the 1952 figure. When a sum of £3·4 million is deducted for capital redemption and special items, this leaves a final net surplus for the year of £4·2 million.

This surplus compares with £4·5 million in 1952 and £0·1 million in 1951, and reduces the accumulated net deficit since 1948 to £27·3 million. The working surplus for 1953 was £59·4 million, and the traffic on most of the carrying services was greater than in the previous year. The report emphasises that the annual financial out-turn during the six years 1948-53 shows a very close balancing between receipts and expenditure, taking one year with another, and that operating deficits in any one year or in any one section of the Commission's business are not borne by the taxpayer but have to be made good, in due course, out of the results of other periods or of other activities.

The outstanding feature in 1953 was the increase in the net traffic receipts of British Road Services from £1·6 million in 1952 to £8·9 million in 1953. There was also an increase of nearly £1 million in the net traffic receipts of the Provincial and Scottish bus groups. These improvements were offset by a fall of £4 million in the net traffic receipts of British Railways to £33 million; by a fall of £0·3 million, to the very low figure of £0·6 million for the year in the net traffic receipts of the London Transport services; and by a fall of almost £1 million in the net traffic receipts from ships. Yields from other activities showed little change. The increase of £4·0 million in central charges is mainly due to the issue of British Transport Stock for cash in November, 1952. The working surpluses of the various activities appear in the accompanying table.

	Net receipts or (deficit), *i.e.*, gross receipts less working expenses, 1953	Better (+) or worse (−) than 1952, by
	£ million	£ million
Principal carrying activities:		
British Railways (including C. & D. services) ...	33·0	− 4·0
British Road Services ...	8·9	+ 7·3
Provincial & Scottish buses	4·8	+ 1·0
London Transport—		
Road	(0·1)	+ 0·3
Rail	0·7	− 0·6
Ships	0·9	− 1·0
Inland waterways (carrying)	—	—
	48·2	+ 3·0
Other Principal Activities, including docks and hotels	5·1	− 0·3
Miscellaneous activities ...	4·3	+ 0·4
Interest and miscellaneous receipts	1·8	+ 0·6
	£59·4	+£3·7
Deduct: Interest, administration, and other central charges	51·8	− 4·5(incr.)
Surplus of revenue receipts over expenditure for 1953	7·6	− 0·8
Less: Capital redemption and special items ...	3·4	+ 0·5
Surplus	£4·2	−£0·3

BRITISH TRANSPORT COMMISSION: CONSOLIDATED BALANCE SHEET AT DECEMBER 31, 1953

December 31, 1952		£	£
£			
	Current Liabilities		
62,196,834	Creditors and accrued expenses (including £3,500,000 due to a subsidiary company)	68,324,969	
2,924,037	Consideration for undertakings acquired payable in cash (estimated)	1,022,911	
11,407,326	Interest (less income tax) accrued on capital liabilities	11,804,605	
76,528,197			81,152,485
	Deposits		
41,326,134	By staff savings banks	42,010,477	
83,583,546	By staff superannuation funds ...	89,255,313	
124,909,680			131,265,790
	Provisions		
67,454,470	For abnormal maintenance ...	45,653,756	
105,567,902	For pre-vesting actuarial deficiencies of guaranteed superannuation funds	102,970,968	
19,911,592	For taxation	27,736,556	
20,930,291	Other provisions	19,861,655	
213,864,255			196,222,935
415,302,132			408,641,210
	Capital Liabilities		
40,160,040	Loan from London Electric Transport Finance Corporation Limited (repayable 1950/55)	40,160,040	
874,118	Obligations to local authorities in respect of the redemption of loans	819,010	
9,599,272	Consideration for undertakings acquired to be satisfied by the issue of British Transport Stock (estimated)	4,082,005	
1,311,171,141	British Transport Stock	1,317,542,248	
1,361,804,571			1,362,603,303
13,879,268	**Capital Redemption Accounts** ...		17,263,127
1,790,985,971			1,788,507,640

December 31, 1952		£	£
£			
	Current Assets		
47,944,428	Bank balances, Treasury Bills, deposits at short call and cash ...	40,256,244	
24,466,961	*Balance receivable on issue of British Transport Stock*	—	
17,113,916	Marketable securities (market value £16,683,840)...	16,536,193	
63,673,448	Outstanding traffic accounts... ...	64,353,756	
12,573,361	Other debtors and payments in advance	12,534,416	
105,008,742	Stores and materials	102,543,855	
270,780,856			236,224,464
13,694,869	**Investments in respect of British Transport Stock Redemption Fund Accounts** (market value £17,151,195)		17,066,822
	Fixed Assets and Goodwill on bases indicated in supporting statements and notes on accounts		
9,990,161	Interests in non-controlled undertakings	10,037,685	
1,987,201	Interests in subsidiary companies not engaged in the principal activities of the Commission	2,043,512	
	Rolling stock, vehicles, ships and plant and equipment ... ... £ 846,965,277		
817,927,680	*Deduct* depreciation accrued to date ... 429,467,087		
424,698,665		417,498,190	
393,229,015			
	Land, buildings, permanent way, docks, canals and other works (*Renewals of these assets are dealt with as revenue charges*)	1,006,315,785	
998,063,357	Goodwill	63,908,107	
63,973,870			
1,467,243,604			1,499,803,279
7,783,689	**Discounts less premiums on issue of British Transport Stock,** less amounts written off		8,118,277
31,482,953	**Net Revenue Account** — balance (deficit) at December 31, 1953 ...		27,294,798
1,790,985,971			1,788,507,640

Note.—Estimated further expenditure on Capital Account authorised at December 31, 1953: £120,000,000

BRIAN H. ROBERTSON, *Chairman*
J. BENSTEAD, *Deputy Chairman*
REGINALD WILSON, *Member*

CONSOLIDATED WORKING RESULTS OF PRINCIPAL ACTIVITIES OTHER THAN CARRYING

—	Docks, harbours and wharves	Inland waterways: other than carrying operations	Hotels and catering			Commercial advertising	Letting of sites, shops, etc., on premises and properties in use for transport purposes	Grand total
			Hotels	Refreshment rooms	Restaurant cars			
	£	£	£	£	£	£	£	£
Gross receipts	17,555,982	1,995,730	5,734,313	8,496,278	3,050,658	2,817,552	1,569,329	41,219,842
Working expenses (including depreciation or renewals but after deducting abnormal maintenance)	15,109,070	2,078,906	5,745,435	8,306,642	3,699,368	908,847	229,655	36,077,923
Net receipts	2,446,912	83,176 (deficit)	11,122 (deficit)	189,636	648,710 (deficit)	1,908,705	1,339,674	5,141,919
Year 1952								
Gross receipts	16,855,396	1,940,999	5,782,087	7,880,643	2,951,874	2,741,565	1,585,360	39,737,924
Working expenses	14,457,004	2,063,583	5,739,656	7,565,208	3,423,664	883,261	216,724	34,349,100
Net receipts	2,398,392	122,584 (deficit)	42,431	315,435	471,790 (deficit)	1,858,304	1,368,636	5,388,824

in fares has been almost a year behind the rise in costs. The new procedure permitted under the Transport Act, 1953, may provide a remedy, or partial remedy, for this serious situation.

The report describes the year 1953 as disappointing in one major respect, in that the early hopes of financial stability were disappointed, and despite traffics that were fairly buoyant, except in some of the short distance passenger categories, notably in London, the year 1954 opened with the future budget already unbalanced. Factors contributing to this position were rises in coal and steel prices and in transport wages. In general, increased gross receipts from the principal carrying activities were the result of higher charges rather than of greater volume.

Railway Services

Long-distance railway traffic has always represented a high proportion of the total long-distance travel undertaken in Britain and it is precisely that class of railway traffic which would appear to produce the most favourable net financial results. It follows, says the report, that any tendency towards a loss of this particular type of passenger traffic must be regarded as a serious matter. Accordingly it has been the policy of the Commission, in the last year or two, not to increase long-distance railway fares. The obligations to the public of meeting the peaks of traffic and of providing services at times when demand is light fall much more heavily on the railways than upon the long distance express services by road. The unequal burden thus thrown on the B.T.C. may well prove in the long term, the report maintains, to be undesirable in the general public interest.

Freight Train Working

Dealing with freight services, the report states that the efficiency of freight train working on British Railways continued to rise. The steady increase in net ton miles of goods moved per engine hour, which has been a feature since 1947, was again maintained in 1953 and showed an improvement of 2·3 per cent over 1952. This important statistic has shown a steady increase from 547 in 1948 to 619 in 1953. The last figure is an improvement of about 34 per cent over 1938.

Further progress was made with the costing of freight traffics during the year and the experience gained is to be used in working out a basis of domestic control of the more flexible methods of quoting rates which will in due course be necessary as a result of the Transport Act, 1953, once a maximum freight charges scheme has been submitted to the Transport Tribunal and approved. Costing experience during 1953 would appear to confirm that small consignments by railway freight train are no longer properly remunerative. It would seem that there are many other types of railway freight traffic, also, which might with advantage be passed over to road in order that the railway may concentrate on those traffics which it is most suited and best equipped to handle, many of which are today carried by road.

Current Assets

The net current assets shown in the consolidated balance sheet at £155 million compare with £194 million at the beginning of the year and the Commission has been unable to accumulate a general reserve or to put anything on one side to meet the higher costs of asset replacement. The Commission states that its fares and charges for most services are under close public control, and in the targets which have been set for revenues there has been no allowance for the building up of such reserves. Up to a point, therefore, the strength or weakness of the Commission balance sheet is what these public controls make it. The Commission does not complain of this, but feels that the existence and the nature of these controls are too little recognised, and are often overlooked in comparisons made between public transport operation and other operations of a public or private character.

Railway Working Results

After stating that much the same volume of passenger and freight traffic was handled by British Railways in 1953 as in 1952, but that the efficiency with which these traffics were carried showed an improvement, the report refers to the fact that the net ton miles in 1953 at 22,766 million were higher than in any peace-time year except 1951. There was an increase of 1·7 per cent over 1952,

An appreciable decline in the number of locomotives under or awaiting repair is reported, the relative percentages being 4·9 per cent at the end of 1953 compared with 5·1 per cent in 1952 and 7·0 per cent in 1947. The number and percentage of coaching and freight vehicles under or awaiting repair also declined.

The improved condition of the track made an important contribution towards the improvement in operating efficiency during the year, and the number of temporary speed restrictions on trunk lines was reduced. Though permanent way staff continued to be under strength throughout the year, this handicap was overcome to some extent by the use of

BRITISH RAILWAYS WORKING RESULTS YEAR 1953

Year 1952 £		£
	Gross receipts:	
	Passenger train—	
	Passengers	
93,030,327	Ordinary	95,008,888
6,750,743	Early morning tickets and workmen ...	7,211,775
12,100,226	Season	12,548,540
111,881,296		114,769,203
26,472,255	Parcels and other merchandise	27,801,563
9,532,425	Mails and parcels post ...	10,769,725
147,885,976		153,340,491
	Freight train—	
104,400,314	Merchandise	106,103,407
42,193,370	Minerals (Classes 1 to 6) ...	45,254,394
101,680,167	Coal and coke	108,996,127
2,262,882	Livestock	2,729,147
250,536,733		263,083,075
4,935,173	Miscellaneous	4,967,419
403,357,882	Total	421,390,985
	Working expenses (including depreciation or renewals but after deducting abnormal maintenance)—	
129,726,355	Train and vehicle operating costs	134,986,432
75,097,213	Maintenance and depreciation of rolling stock ...	84,855,820
90,203,846	Other traffic costs ...	92,070,449
56,975,464	Maintenance and renewal of way and structures ...	62,589,693
11,753,307	General expenses ...	11,827,781
363,756,185	Total	386,330,175
36,601,697	Net traffic receipts ...	35,060,810

CONSOLIDATED WORKING RESULTS OF PRINCIPAL CARRYING ACTIVITIES

	Railway passenger and freight services of British Railways		Collection and delivery and other road services of British Railways		Road haulage by British Road Services		Road passenger services of provincial and Scottish groups		London Transport services				Ships: passenger and cargo services of British Railways		Inland Waterways: carrying operations		Grand total
									Road services		Railways						
	£		£		£		£		£		£		£		£		£
Gross receipts:																	
Passengers	114,769,203		—		—		50,198,210		50,107,451		18,313,627		5,475,427		—		238,863,918
Freight, parcels, and mails	301,654,363		11,720,074		78,490,982		—		—		—		6,089,833		905,282		398,860,534
Miscellaneous	4,967,419		3,190		1,757,334		271,500		2,024		430,318		658,548		5,904		8,096,237
Total	421,390,985		11,723,264		80,248,316		50,469,710		50,109,475		18,743,945		12,223,808		911,186		645,820,689
Percentage of grand total—Year 1953 ...	65		2		12		8		8		3		2		—		100
Year 1952 ...	65		2		12		8		8		3		2		—		100
	£	Per cent	£	Per cent	£	Per cent	£	Per cent	£	Per cent	£	Per cent	£	Per cent	£	Per cent	£	Per cent
Working expenses (including depreciation or renewals but after deducting abnormal maintenance):																	
(a) Train, vehicle, and ship operating expenses ...	134,986,432	35	10,357,568	58	38,147,049	53	28,436,490	62	29,852,188	59	6,068,240	34	4,259,008	38	262,135	28	252,369,110	42
(b) Maintenance and depreciation of rolling stock and ships	84,855,820	22	3,666,899	21	15,355,119	22	9,431,613	21	10,082,542	20	3,200,985	18	2,414,175	21	181,263	19	129,188,416	22
(c) Other traffic costs	92,070,449	24	1,214,526	7	5,576,018	8	3,943,463	9	5,873,251	12	3,993,991	22	3,569,166	32	2,588	—	116,243,452	19
(d) Maintenance and renewal of way and structures ...	62,389,693	16	169,784	1	471,763	1	804,938	2	1,049,533	2	3,634,416	20	9,784	—	—	—	68,729,911	11
(e) Vehicle licence duties and inland waterway tolls	—	—	517,127	3	1,780,406	2	1,029,317	2	906,003	2	—	—	—	—	203,388	22	4,436,241	1
(f) General expenses	11,827,781	3	1,833,434	10	10,046,018	14	2,028,594	4	2,402,184	5	1,153,775	6	1,021,593	9	297,220	31	30,610,599	5
			17,759,338	100													601,577,729	100
Deduct:																		
(g) Cartage charged to other activities			3,964,452														3,964,452	
Total	386,330,175	100	13,794,886	—	71,376,373	100	45,674,415	100	50,165,701	100	18,051,407	100	11,273,726	100	946,594	100	597,613,277	
Net traffic receipts	35,060,810		2,071,622 (deficit)		8,871,943		4,795,295		56,226 (deficit)		692,538		950,082		35,408 (deficit)		49,207,412	
Operating ratio: percentage of working expenses to gross receipts	92		118		89		90		100		96		92		104		93	
Year 1952																		
Gross receipts	403,357,882		11,317,647		77,567,423		48,208,547		48,697,232		18,399,959		12,167,162		914,217		620,630,069
Working expenses	363,756,185		13,900,540		75,927,700		44,377,118		49,005,201		17,139,953		10,281,769		973,669		575,362,135
Net traffic receipts	39,601,697		2,582,893 (deficit)		1,639,723		3,831,429		307,969 (deficit)		1,260,006		1,885,393		59,452 (deficit)		45,267,934
Operating ratio: percentage of working expenses to gross receipts	90		123		98		92		101		93		85		107		93

NOTE.—The classification of working expenses under the six main heads shown above, while broadly uniform, differs to some extent for the various principal activities shown

contractors and of imported labour. Claims payments in respect of freight traffic lost, stolen, and pilfered for 1953 amounted to £1·2 million, a decrease of 29 per cent on 1952, and the total claims paid were £2·2 million, a decrease of 25 per cent on 1952.

British Road Services

British Road Services net traffic receipts of £8·9 million were much the best so far—the more remarkable in that 1953 was a year of great uncertainty in the minds of the staff, on account of impending denationalisation. Reviewing the development of B.R.S., the report records that the first year (1948) was devoted to planning the organisation from scratch and making a start with the voluntary acquisition of a few score large and well-organised undertakings; the second and third years covered the peak of the programme for the compulsory acquisition of 3,288 separate undertakings; the fourth (1951) saw the completion of the acquisition programme and the major part of the task of reorganising the acquired undertakings into a rational pattern; and the fifth year (1952) was devoted to a process of consolidation of the services on an economic and efficient basis, the results of which are to be seen in the net traffic receipts for 1953. In that year the B.R.S. organisation was still further developed; regular services now link all main centres, and all important points are connected by teleprinter. Over most of the country, next-day delivery has become the general rule. More regular working hours have been established and the accident rate showed a marked improvement despite the contrary trend on the national casualty rate. Less than one accident involving personal injury occurred in every 325,000 B.R.S. vehicle-miles, as against one in 290,000 for 1952. Claims for goods lost, stolen, or damaged while conveyed by B.R.S. were 15 per cent less than in the previous year.

London Transport

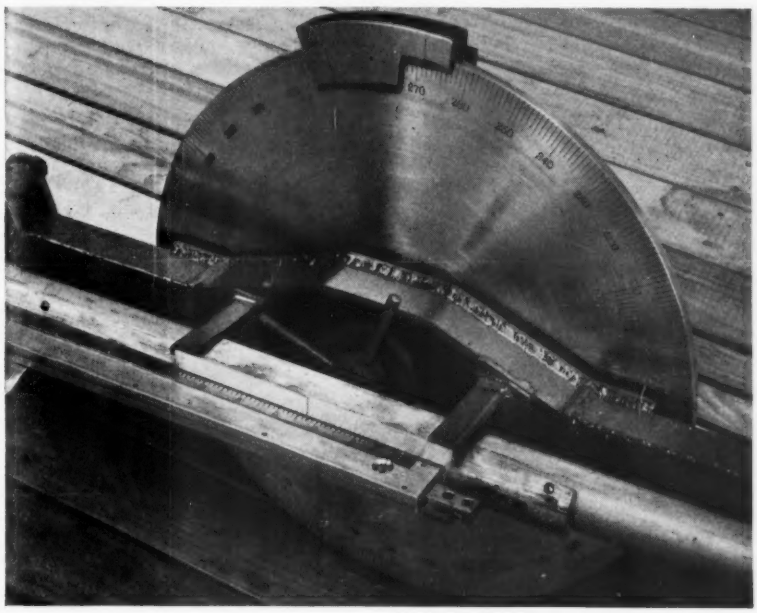
Rising wages and price levels, combined with delay and difficulties in making corresponding adjustments in fares, are reflected in the results of London Transport. Total working expenses of London Transport road services rose by £1·2 million, 2 per cent, although there was a reduction in car mileage of about 1 per cent. Gross receipts improved by £1·4 million, but there was still a small deficit of net traffic receipts from road services, before charging interest on capital.

Traffic carried by both road and rail services declined in 1953, Central Bus Services carrying 37 million (1 per cent) fewer passengers, trolleybuses 17 million (2 per cent) fewer, and rail services 5 million (0·8 per cent) fewer. The traffics carried by Central Bus and the trolleybus services reflect the influence of the growing number of houses available, the better supply of consumer goods, which absorbed more public

(*Continued on page* 469)

Radial Arm Equipment for Gauging Structures

Equipment designed by British Railways, Eastern Region, to accelerate accurate recording of clearances



Centre of swivel head, showing graduated disc and part of telescopic arm

AN essential for obtaining the requisite information in recording clearances of structures is speed. British Railways, Eastern Region, have designed radial arm equipment so that the occupation of the track by the gauging train can be cut to a minimum.

The equipment, with a cabin for the assistant recording the information, has been erected on a suitable rail vehicle and consists of: (*a*) the radial arm unit comprising a carrier beam, a graduated disc, and a telescopic arm; and (*b*) the pedestal unit, upon which the radial arm is mounted; the latter unit registers with the running edge of the rail adjacent to the structure to be profiled.

Warning lights are provided for the protection of equipment when in operation.

The cabin has windows fore and aft, the top halves of which may be opened so that the operator of the measuring equipment can communicate readily and easily with the assistant recording the readings. Under each window is a collapsible desk for the use of the assistant recording the measurements taken.

Along one side of the cabin is a chest for the storage of the radial arm equipment when not in use, also a cupboard for storage of recording sheets and a small tool chest. Heating is provided.

The technical staff requirements are as follow:—

No. 1 *Assistant:* in charge of gauging operations directing use of equipment and taking angular and lineal measurements.

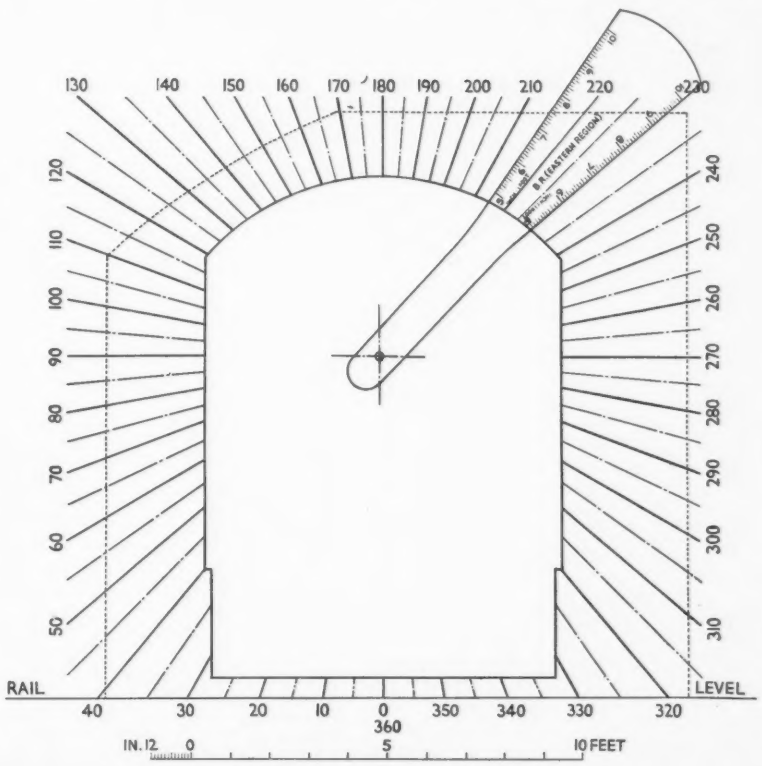
No. 2 *Assistant:* recording measurements and locations.

The gauging train consists of locomotive, gauging vehicle, and brake van.

Measuring Procedure

The procedure for measuring the first of a series of structures is to bring the vehicle to rest opposite the structures to be gauged, attach the radial arm to the spindle of the pedestal, lower the pedestal and adjust rail stops until the running edge of the rail adjacent to the structures is engaged. The radial arm is then rotated and the telescopic arm extended to contact the structure at the various points it is required to measure and the resultant angles and dimensions read on the graduated disc and lineal scale.

Each division on the graduated disc represents one degree. The index arm for reading the angular measurements is provided with two marks, the right hand one normally being used. The carrier beam rotates with the disc and the angles are read at this mark. When, however, the carrier beam is in the vertical position or is approaching this position, one of the marks on the index arm, together with a portion of scale,



Plotting board and radial scale, with plotting board amended to show 5-deg. intervals for clarity in illustration

Adjusting radial arm to umbrella roofing at Alexandra Palace

will be obscured by the arm. For this reason a portion of the scale is repeated beneath the main scale.

Radial distances are measured by traversing the tubular portion of the radial arm through the rollers by means of handles, until the pointed end is within a few inches of the structure required to be measured. A slow motion device is attached to one of the rollers and this is used when bringing the pointed end of the tube into contact with the structure.

Structures within a radius of 4-7 ft. may be immediately read off from the scale; when distances of 7-10 ft. are needed the telescopic extension is used. Recesses in the scale plate at 1 ft. intervals show the number of feet. With the telescopic portion closed the recesses will show the figures 4, 5, 6, and 7 ft. and when the telescopic portion is extended they automatically change to 7, 8, 9, and 10 ft.

When the structure has been measured, the pedestal is lifted clear of the rails, the radial arm placed in the travelling position, i.e., vertical, with the telescopic portion closed.

Two warning lights, one protecting the pedestal unit, the other the radial arm unit, show red when the equipment is in use and not in a position for movement. These lights change to green when the equipment has been placed in the correct travelling position.

Plotting

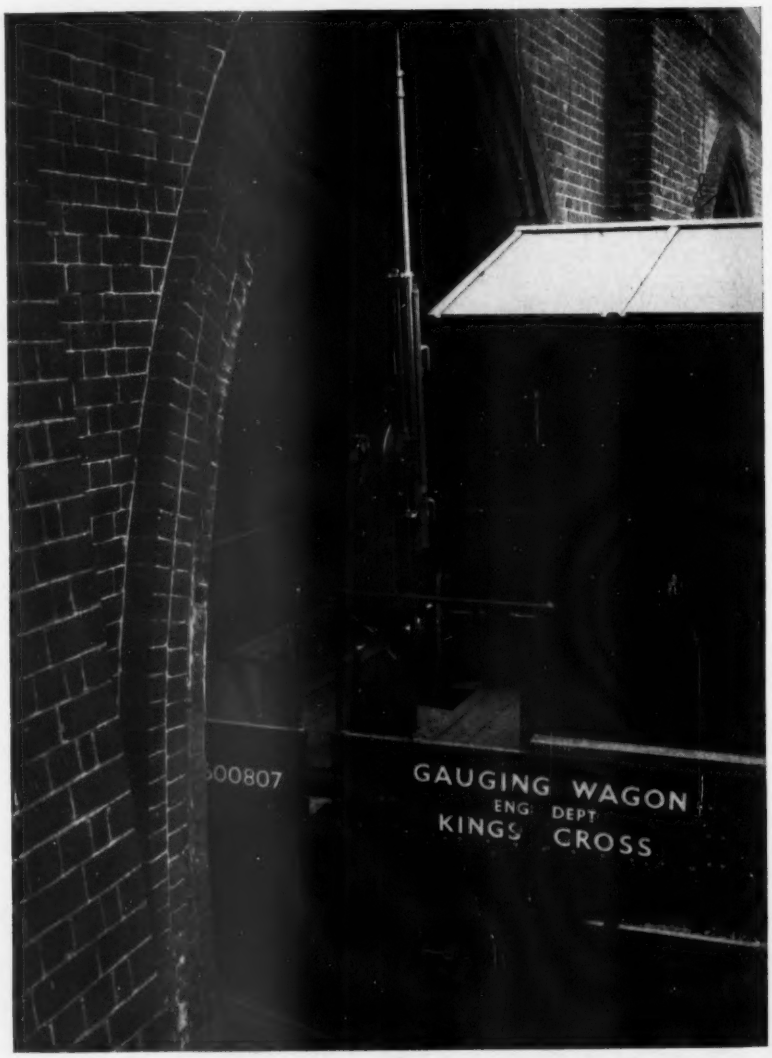
The plotting of the information obtained is carried out on a plotting board 28½ in. × 26½ in., on which is fixed permanently a master print. This has lines radiating at intervals of one deg. from a pin fixed in relatively the same position as the spindle of the radial arm. A printed negative appropriate to the line to be plotted, i.e., with the ruling load gauge shown on, is placed over the master print and by means of a special radial scale placed over the pin and rotated similarly to the radial arm, the profiles are plotted.

The use of the radial arm measuring equipment with its speed of operation enables the occupation of the line by the gauging train to be considerably reduced whilst the radial arm method of plotting enables the information recorded to be quickly plotted on the specially prepared negatives.

Advantages Claimed for Device

The advantages claimed for this type of equipment are summed up as follow:—(*a*) greater accuracy; (*b*) speed-up of measurements on site; (*c*) fewer site dimensions required; (*d*) reduced track occupation; (*e*) simplicity in computation of results; (*f*) reduction in drawing office time plotting; (*g*) constant result from running edge of rail adjacent to structure.

The design and fabrication of the equipment was carried out under the supervision of Mr. J. I. Campbell, Civil Engineer, Eastern Region.



At portal of Highgate Tunnel, showing part of pedestal

Three-Car Diesel Trains in Western Germany

Fast international and internal services worked with refreshment car sets seating 108 passengers

THE high-speed diesel trains introduced by the German Federal Railway in the summer of 1953 are now working the "Saphir" express between the Ruhr and Ostend, besides other services. The trains are known as type VT 08, and consist of three cars. Seating accommodation is provided in the centre car and the third, control-fitted, car only. The leading car is the motive power unit, which contains also a kitchen and restaurant section seating 24 passengers. The capacity of the train, without the restaurant seats, is 108 passengers, second class only. The compartments, which are upholstered in plush, each seat six, and have panels of African pear-tree wood. Ceilings are panelled in polished mountain maple. The sliding doors of the compartments are of light alloy finished in a brass colour. A compartment, with typewriter, is provided for a train secretary. The furniture in this compartment is of plastic-upholstered steel.

Heating System

All coaches are fitted with a hot water heating system, and the power unit may also be heated by a heat exchanger extracting waste heat from the engine coolant. The heating boiler has a capacity of some 35,000 cal./hr., and is heated by a three-stage oil burner, thermostatically controlled.

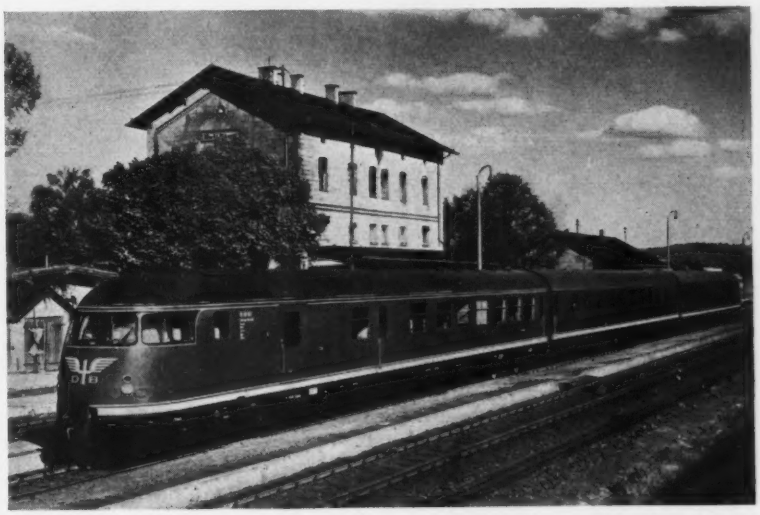
Lighting current for the power unit is provided at 100 V. from a lighting and starter generator driven by the main diesel engine. The other two coaches have lighting generators driven by bevels and a cardan shaft from one of the coach axles. Batteries are provided for use when the train is standing at stations.

The underframe and the framework of the body are of lightweight steel, combining rib and monocoque construction methods and resulting in a steel tubular stressed body. Extensive use is made of welding and the outer appearance of the train is fully streamlined. Skirting is carried down and round below the body, forming a trough beneath the floor. This trough, besides the side panels and roof covering, is sheathed with soundproofing material.

Traction Bogie Construction

The traction bogie frame is of all-welded steel plate construction. The driving axles are guided in the longitudinal axis by suspension springs and in the transverse axis by horncheeks. One eye of the suspension springs on both sides is fitted with an adjustable eccentric bush to permit correct alignment of driving axles. The bogie has no bolster, the load being transmitted to the bogie frame through lateral friction plates, the body suspension springs, and a spring bracket supported by links, and thence to the wheels sets by the laminated suspension springs. The traction bogie is fitted with a pivot which is not required to absorb stress in the longitudinal axis, as this is absorbed by low-placed guide bars between the body and the bogie. The driving axles are mounted in exterior double-pendulum roller bearing axleboxes.

The interior frame of the carrying bogie is in lightweight welded steel plate construction, the wheel sets being guided in both longitudinal and transverse directions by axle steering rods supported in an adjustable rubber-



Three-car diesel train. The motor coach (left) also contains the kitchen and restaurant sections

cushioned articulated joint fitted to the bogie frame. The carrying bogie also has no bolster, as the load is transmitted to the bogie frame by the two lateral friction plates, with cross-play, fitted to the bogie frame in elastic rubber supports, and thence by the body suspension springs and to the axles by evolute suspension springs. Hydraulic shock absorbers are incorporated in the system to absorb the vibration of the body and suspension springs. Longitudinal and lateral forces are absorbed by the pivot. The carrying axles are mounted in interior barrel-type roller-bearing axleboxes.

Motive Power

The power unit is a 800/1,000-b.h.p. diesel engine which is mounted, by three-point resilient supports, in the traction bogie. Air intakes are provided in the upper portion of the side panels and fitted with grilles. Air filters are incorporated. The exhaust gases are carried away by flues leading to the roof.

Transmission

The engine is connected to the hydraulic transmission by a metal coupling which embodies rubber blocks and a cardan shaft. Either Maybach Mekydro or Voith Turbo transmission may be fitted. Speed changes, with both types of transmission, are fully automatic and regulated by the travelling speed and the speed of the engine.

The reversing gear is an integral part of the transmission, which has three-point resilient support in the frame of the traction bogie. The power is transformed from the transmission to the two Maybach axle drives by cardan shafts.

The train is fitted with electrically-controlled B.S.I. disc brakes with Knorr actuating equipment. A separate brake air cylinder is fitted for each wheel set. The carrying bogie of the motor coach and one bogie each of the centre and control coaches are fitted in addition with a magnetic track brake which operates automatically when the brakes are set for emergency application. There is delayed-action deadman's handle apparatus.

The couplings are of the Scharfenberg type, providing automatic central drawgear and buffer gear, and automatic coupling of airlines and electrical control wiring. Entrance doors are of the swing sliding type and may be operated manually or pneumatically by the driver. The double-pane windows

are horizontally divided and are opened by raising the upper pane.

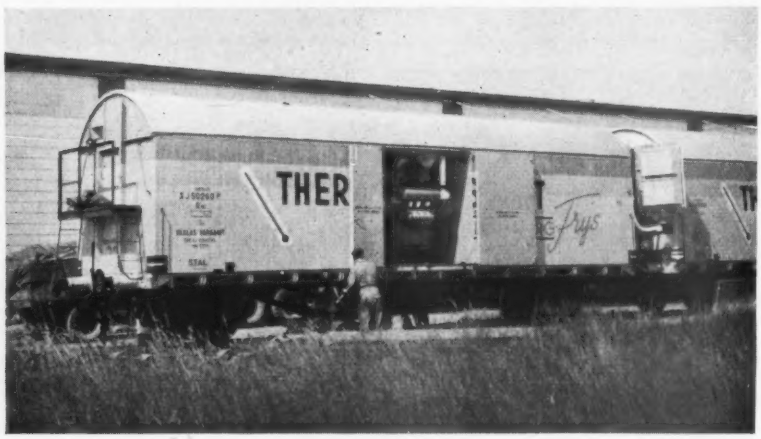
The total weight of the train is 120 *tonnes* and the overall length 79·25 m. The maximum speed is 120 k.p.h. The three-coach set may be strengthened by one additional coach, if required.

The centre coaches were built by Wagon und Maschinenbau G.m.b.H. Donauwörth, and the control trailers by Vereinigte Westdeutsche Waggonfabriken A.G. The motor coaches were built by Maschinenfabrik Augsburg-Nürnberg A.G. The three builders worked in conjunction with Düsseldorfer Waggonfabrik A.G. and Waggonfabrik Rathgeber A.G., München. The engines are by Daimler-Benz A.G. (800 b.h.p.), M.A.N. (1,000 b.h.p.), and Maybach Motorenbau (1,000 b.h.p.).

On May 23, 1954, the "Saphir" express, a through diesel train made up of a VT 08 set, was introduced between the Ruhr, Cologne, Brussels, and Ostend, and vice versa. The train leaves Dortmund daily at 8.04 a.m. and runs via Essen and Cologne (dep. 9.46 a.m.) to Brussels, where it arrives at the Central Station at 12.47 p.m. Ostend is reached at 2.02 p.m. This timing ensures a connection with the afternoon boat to Dover. On the return journey the train leaves Ostend at 4.10 p.m. and Brussels at 5.19 p.m., arriving at Cologne at 8.27 p.m. and Dortmund at 10.11 p.m. A connection to Frankfurt is provided at Cologne and is worked by a diesel train of similar type. The Dortmund-Liège-Paris service also is worked by these VT.08 trains with a second trailer.

Mobile Freezing Plant for Foodstuffs

Freezing machinery and refrigerator vans on Swedish State Railways



The three-compartment machine wagon coupled to one of the refrigerator wagons of the special freezing train of the Swedish State Railways

A DECISION by the Findus A.B. food processing organisation to build, in conjunction with the Swedish State Railways, a mobile freezing plant for fruit and other foodstuffs produced in Sweden, was influenced by the fact that some places in that country are reached more easily by rail than by road.

The special freezing train, constructed on the initiative of Hälsingborgs Fryshus A.B. in consultation with the State Railways, and STAL A.B., is used for a variety of foodstuffs throughout the year.

Last winter it was used for freezing fish on the west coast, and later it was moved to certain strawberry growing areas in central and northern Sweden. In August and September this year, the train has been operating at Skelleftea in the north of Sweden, processing blueberries.

The train consists of five four-wheel vans. Four are cold storage vans and the other houses refrigerating machinery. An additional small van is attached for stores, spare parts, tools, and so on. The machinery van weighs 30 tons and can travel at speeds of up to 45 m.p.h. Each refrigerator van weighs 20 tons; it can carry 11·5 tons of freight at 56 m.p.h., or 8 tons at 63 m.p.h. The floor space is some 200 sq. ft. and the cubic capacity some 1,500 cu. ft.

Freezing Process

During freezing, the machinery van is coupled to one of the four refrigerator vans, with special flexible connections. The foodstuff to be frozen is loaded into the refrigerator van and quick-frozen at an air temperature of −35°C.

Cold air is circulated by a powerful fan through the flexible connection. Freezing capacity is 10 tons a day.

When the refrigerator van is full and the internal temperature stands at −30° C., it is uncoupled and the opening closed by tightly fitting insulated doors. The next refrigerator van is then coupled to the machinery van. The first van is despatched to a centrally situated cold store, into which the produce is transferred and kept at a temperature of −20 to −25°C.

By means of refrigerating equipment and insulation in the refrigerator vans, it is possible to transport fruit and other foodstuffs 1,500 miles.

The train has been built as a self-contained unit and the machinery is driven by a diesel motor. It is thus independent of electricity supply and cooling water. The cooling medium is ammonia gas, which is compressed in two stages through a 9-cylinder low-pressure compressor, and a 3-cylinder high-pressure condenser, producing an effective 75,000 Keal/h at −40°C. extraction temperature, and at +35°C. condensing temperature.

Machinery Van

The machinery van is divided into three compartments. The centre one contains the 8-cylinder diesel motor, which in continuous operation produces an effective 124 h.p., the two ammonia compressors, an intermediary cooler, and a pump for circulation of cold liquid ammonia. The 15-h.p. propellor fan of 1,600 mm. dia. forces cold air through the condenser and expels warm air through the roof. It operates at a pressure sufficient to ensure efficient penetration of cold air through the fully loaded van.

Because of its geographical situation, the production of food in Sweden is practically confined to the southern half of the country. Hälsingborg, which has close connections with Denmark and the rest of Europe and is well placed for collecting farm produce, was an obvious choice for the site of the largest cold store in the country. Another nearly as large has been erected in Stockholm.

The store at Hälsingborg was the first in Sweden to be designed for frozen retail packs and now serves as a centre of distribution for some 90 per cent of this business. Through the branch organisation, Thermo-transport, the frozen produce is distributed to some 40 small refrigerated depôts, owned by wholesalers, throughout the country. From these the packages are distributed to the freezer cabinets in retail stores. There are more than 5,000 such cabinets in use. Six railway wagons are in service for distribution from the central plant at Hälsingborg to depôts all over Sweden, the most distant being at Kiruna, 1,200 miles away, and about 150 miles beyond the Arctic Circle.

Snow Galleries on the Bernina Railway

Design in pre-stressed concrete combining great strength with economy of material

Interior of the top gallery at Alp Grüm, built in 1952, *showing use of pre-stressed concrete elements*

ONE of the greatest problems facing railways in Switzerland and countries where conditions are similar, is that of securing protection against snow falls and avalanches; considerable capital, with consequent maintenance and other charges, has to be expended on it, which has serious consequences on rates and fares. The snow galleries erected for this purpose are a familiar sight to travellers, but other works also are involved.

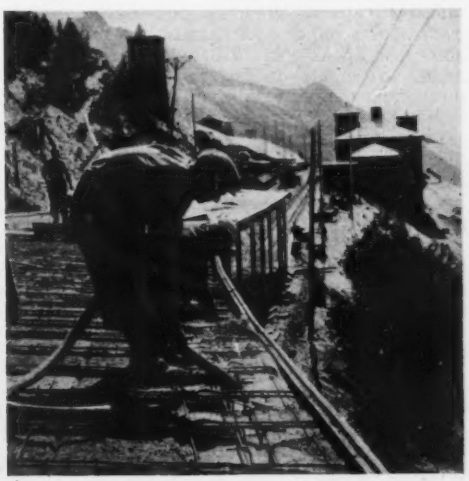
It was a senior inspector of forests in Switzerland, Johann Coaz (1875-1914) who, in a work published in 1881, did much to make the fact realised that the dangers threatening certain localities could be diminished by erecting a system of walls and other forms of obstacle, arranged to influence the way in which snow became deposited and its liability to movement. At first applied not to cover inhabited areas but woodlands, these arrangements later became quite general. When railways came to be built it was the practice to make tunnels to avoid particularly dangerous places, which otherwise would not have been called for, but often then the falls from the mountains did not always come where anticipated and at times the track outside the tunnels became obstructed and perhaps damaged.

When railways were built in the Canton of the Grisons, much land was purchased in certain localities for the purpose of applying Coaz's methods on an extensive scale, work which took a long period to carry out completely. It afforded a safeguard against much of the damage threatening the lines, but the walls, and so on, themselves deteriorated, and have had to be replaced by more modern and stronger forms of construction.

This itself presents difficulties of its own and a great many designs of obstacle have been produced in efforts to achieve satisfactory results. Sometimes damage to the wall foundations by frost has released material which has fallen and itself damaged the line. A settled plan of afforestation brings a natural form of protection and along the route of the metre-gauge Rhaetian Railway, for example, has been carried out continually since the early years of this century. There remain, however, considerable quantities of artificial protective devices of several types, to the extent of many miles spread over the mountain sides.

Protective Galleries

Protective galleries have been in use for very many years, varying in construction with the degree of impact to which they are likely to be subjected, so as to pass clear of the line anything falling from the heights above and enabling



(*Left*) *Placing a main longitudinal beam in position in top gallery;* (*right*) *applying cement to roof troughing; Alp Grüm Station in distance*

The three galleries at Alp Grum, showing the point, now sheltered by the centre of the top gallery, from which a motor coach was thrown down the mountainside by the avalanche in 1951

traffic to be moved without interruption.

In the case of the Chaneletta danger zone near Muot on the Rhaetian Railway, a particularly strong gallery about 126 yd. long has been constructed which is practically a tunnel, except for some arch openings in the outer walls. It is desirable to avoid closing in this side of a gallery, to minimise interference with the view from the train, but occasionally, where snow can drift back to the line, this has to be done and from the passenger's point of view the gallery becomes a tunnel.

Galleries at Alp Grüm

Recently galleries of new design were erected near Alp Grüm, on the Bernina Railway, also metre-gauge, which since 1943 has formed part of the Rhaetian Railway system. The design is shown in the accompanying illustration. The Bernina Railway originally was designed, like a few other Swiss mountain railways catering mainly for tourist traffic, for summer operation only; but before its opening in 1910, plans were made to enable traffic to continue throughout the year. A number of protective galleries were constructed, except between Alp Grüm and Cavaglia, where this was considered impracticable, and for several winters horse transport stood by to provide an emergency service, should the line be blocked.

The renewal of the Federal concession to the Bernina Railway in 1933 was on condition that operation was to be continuous throughout the year. A section of route particularly exposed to danger was in consequence reconstructed, but for financial reasons other works had to be deferred, especially those protecting the line on the double-hairpin loop just south of Alp Grüm station. Only after absorption into the Rhaetian Railway was it possible to finance these other works.

In 1949, galleries were constructed on the middle and lower loop sections, using pre-stressed concrete elements. In 1951, these were subjected to a severe and unexpected test. On January 3, a 30-ton motor coach, three railwaymen in which had remarkable escapes from injury, was hurled by an avalanche from the topmost line of the double hairpin, down over these two galleries and was smashed to pieces. A man nearby was buried in the snow and débris. The roofs of the galleries withstood the blow without damage, evidence of their good design and construction, and the experience prompted the railway administration to build a third gallery of this type to protect the top section of the loop close to Alp Grüm Station. It is about 865 ft. long.

The roof, sloped at 1 in 10, rests on a retaining wall on the inner side and on the valley side on a series of concrete frames set parallel to the track, of prefabricated pre-stressed elements, consisting of four stanchions and three beams. These frames are about 54 ft. overall and separated by expansion joints. The heaviest element weighed about one ton.

Railborne cranes were used to erect the structure between trains. The roof itself is formed of transoms spaced 2 ft. apart, with 4-in. thick lightly reinforced slabs between. Only a small amount of concrete was cast on the site.

This work is described by Mr. H. Conrad, Chief Engineer of the Rhaetian Railway since 1952, the year in which the third gallery was constructed, in the *Schweizerische Bauzeitung* for January 23, 1954, by courtesy of which the accompanying illustrations are reproduced.

We are indebted also to Dr. Hans Zitt, Operating Manager of the Rhaetian Railway, for some additional information on this interesting work, which has proved very satisfactory in service.

RAILWAY TRAFFIC DISLOCATED BY U.S.A. FLOODS.—Many railway lines in the Middle West of U.S.A. were flooded after the torrential rains on October 9-12. For some time, no trains could be worked into and out of the Chicago Union Station.

ACCIDENT NEAR NIJMEGEN.—Six persons were killed and 11 injured when two trains collided in the station of Elst, near Nijmegen, in the Netherlands, on October 13. An electric train from Nijmegen to Amsterdam entered the station on the wrong track. Several passengers were brought out of the wrecked carriages with the aid of metal-cutting apparatus.

View from Alp Grum Station, of line ascending through top gallery

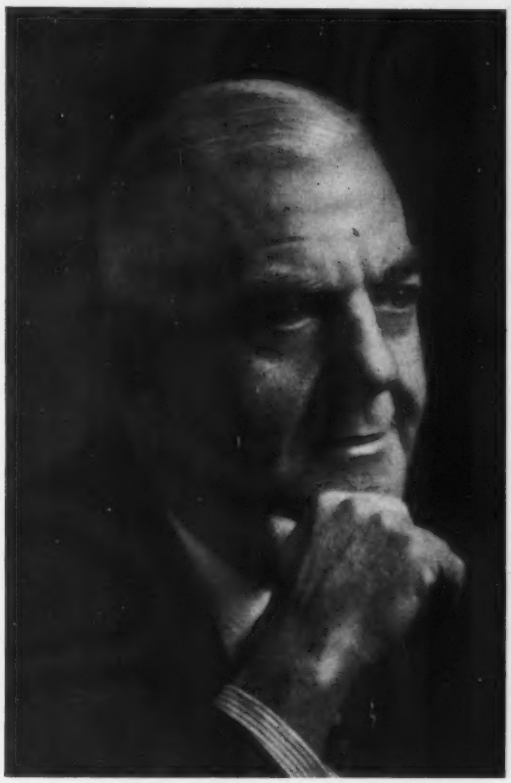
RAILWAY NEWS SECTION

PERSONAL

Mr. B. H. Harbour has been appointed a full-time Member of the London Transport Executive. Mr. Harbour, Operating Manager (Country Buses & Coaches) has served with the Underground group of companies and the L.P.T.B. since 1913.

The late Mr. H. L. Wilkinson, Superintendent of the Line, Great Western Railway, 1933-36, whose death was recorded in our October 15 issue, joined the service of the Great Western Railway in the District Goods Manager's office at Bristol in 1890. Two years later he was transferred to the Divisional Superintendent's office in that city, and, in 1896, he moved to the London Division. Here he gained an extensive all-round experience, in the course of which he was for three years Assistant Stationmaster at Paddington. In 1910, he was appointed Chief Clerk to the Cardiff Divisional Superintendent, returning the following year to Paddington as Outdoor Assistant to the Divisional Superintendent. In 1917, he was appointed London Divisional Superintendent, and, in 1922, Assistant Superintendent of the Line. Mr. Wilkinson became Superintendent of the Line in January, 1933, and retired from this position in 1936.

The late Mr. H. L. Wilkinson
Superintendent of the Line, Great Western Railway, 1933-36



The late Mr. R. G. Davidson
Chief Accountant, Southern Railway, 1940-46

Mr. B. Venkataraman has been appointed Chief Mechanical Engineer, Southern Railway, India.

We regret to record the death on October 13, at the age of 73, of Mr. Ralph George Davidson, F.S.A.A., A.C.I.S., M.Inst.T., Chief Accountant of the Southern Railway from 1940 to 1946. Mr. Davidson began his railway career in the Secretary's office of the London & South Western Railway. He resigned from railway work to become articled to a firm of chartered and incorporated accountants, and subsequently became a qualified Incorporated Accountant. He spent the greater part of a year travelling in the United States and Canada, returned some years later to America, and visited Japan and the Far East, where he was afforded special facilities for the study of the railway systems of those countries. He also made an extensive tour in South Africa and Rhodesia. After his service with the firm of chartered accountants, Mr. Davidson returned to the railways, and was appointed General Assistant to the Accountant of the London & South Western Railway in 1909. He was placed in charge of the alteration and revision of the accounts of all departments of the company necessitated by the Railway Companies (Accounts & Returns) Act, 1911, and, in 1914, became one of the original investigators appointed on behalf of the Government to examine railway companies' accounts during the period of Government control. He subsequently became Principal Assistant to the Accountant, London & South Western Railway, and he held that position until January, 1923, when he was appointed Assistant Accountant, Southern Railway. In February, 1925, he was made Joint Accountant and he remained in this position until March 31, 1940, when he was appointed Chief Accountant. Mr. Davidson took a leading part in the negotiations and settlement of the financial arrangements connected with the amalgamation and absorption schemes incorporating the Southern Railway Company under the Railways Act, 1921. He was also engaged on the financial negotiations arising out of the Southern Railway (Road Transport) Act, 1928, connected with the acquisition by that system of a considerable shareholding interest in various provincial bus undertakings. Mr. Davidson was a member of the R.E.C. Accountants' Committee and of the "Rules" Committee constituted under the provisions of the Railway Control Agreement from the commencement of Government control in 1939. Under the same agreement he also was appointed a Managing Trustee of the Southern Railway Trust Fund dealing with the investment of unexpended arrears of maintenance monies. He retired from the service of the Southern Railway on April 1, 1946.

The funeral took place at Putney Vale Cemetery on Monday last and, in addition to the family mourners, there were present or represented Sir Eric Gore-Browne, Sir Eustace Missenden, Sir Reginald H. Hill, Sir John Elliot and Messrs. A. Endicott, G. Morton, W. J. Sawkins and H. L. Smedley.

Mr. J. E. Richardson
District Commercial Superintendent, York, N.E. Region, 1950-54

Mr. Herbert Bullough
Appointed District Commercial Superintendent, Leicester, L.M. Region

Mr. S. B. Lovegrove
Appointed District Operating Superintendent, Liverpool (Lime Street), L.M. Region

Mr. John Edward Richardson, District Commercial Superintendent, York, North Eastern Region, British Railways, who, as recorded in our October 8 issue, retired on October 2, was educated at Beverley Grammar School, and entered the service of the North Eastern Railway at Hull in 1911. He received his early training in dock and railway operation in the Hull area. During the 1914-18 war he was commissioned in the Royal Artillery and served on the Somme, Arras, and Passchendael fronts. He came to York in 1925, when he took up a position in the Works & Parliamentary Section of the Divisional General Manager's Office, L.N.E.R., and, in 1928, he transferred to Middlesbrough where, until 1932, he occupied various positions in the offices of the District Goods Manager and the Dock Superintendent. He became Chief Staff Clerk to the District Superintendent, Middlesbrough, in 1932, and returned to York in 1933 as head of the Development Section of the Passenger Manager's Office. In 1937, he was appointed Assistant District Passenger Manager, Newcastle, and two years later he moved again to York as Acting District Passenger Manager, being subsequently confirmed in the position. With the nationalisation of railways and the formation of the North Eastern Region, he became, in April, 1950, the District Commercial Superintendent at York. Mr. Richardson has served for some years on the Committee of the Yorkshire Section of the Institute of Transport, and was Chairman during its Silver Jubilee Year 1949-50. He has taken a prominent part in the activities of the York Railway Institute, is a Member of its Council and acted as Honorary Treasurer and Deputy Chairman for some years. He has been a Governor of Mill Mount Grammar School and of the Scarcroft and Knavesmire Secondary Modern Schools since 1946. He is a member of the Further & Adult Education Sub-Committee of the York Education Authority, and a Member and Past-Chairman of the Transport Industries Sub-Committee of the Yorkshire Council for Further Education.

Mr. Herbert Bullough, District Commercial Superintendent, Stoke-on-Trent, London Midland Region, British Railways, who, as recorded in our October 1 issue, has been appointed District Commercial Superintendent at Leicester, began his railway career on the former Lancashire & Yorkshire Railway at Manchester in 1915. After gaining experience at Bury and Castleton he was transferred to the General Manager's Parliamentary & Private Siding Section on the amalgamation of the L. N. W. and L. & Y. railways. In 1925, Mr. Bullough moved to Euston and occupied positions in the Private Sidings, Development, Canvassing and Livestock sections of the Commercial Department, and became an investigator in the Commercial Research Section in 1936. He became Personal Clerk to the Chief Commercial Manager in 1942 and, two years later, was appointed Assistant (Commercial Research) to that Officer. In May, 1945, Mr. Bullough went to Leeds as Assistant District Goods Manager and, in November of the following year, he moved to Stoke-on-Trent as District Goods & Passenger Manager, later re-designated District Commercial Superintendent, the position he now leaves.

Mr. S. B. Lovegrove, District Operating Superintendent, Birmingham (Western), London Midland Region, British Railways, who, as recorded in our October 15 issue, has been appointed District Operating Superintendent, Liverpool (Lime Street), London Midland Region, began his railway career at Stratford in 1920, as a junior clerk in the office of the Locomotive Accountant of the former Great Eastern Railway. He was selected as a traffic apprentice by the L.N.E.R. in 1927, and, after a period of training, was appointed Assistant Yardmaster at Ferme Park. A year later, he became Stationmaster at Dunford Bridge, and, in 1933, was appointed Deputy Chief Controller, District Superintendent's Office, Manchester. Between 1937 and 1944, Mr. Lovegrove was successively Yardmaster at Sheffield and at Grimsby Docks, Supernumerary Assistant to the Superintendent, Eastern Section, and to the Trains Assistant, Distritt Superintedent's Office, Cambridge. In 1944, he became Acting Assistant District Superintendent, Leeds, and was officially appointed to this position in January, 1945. In the same year he became Acting Assistant District Superintendent, Godley (Manchester), and returned to his former position at Leeds in 1946. Mr. Lovegrove became Assistant District Superintendent, Manchester, in 1947, and a year later was appointed Assistant District Superintendent, Stratford, Eastern Region. He was awarded the Brunel Medal in 1926, for transport subjects at the London School of Economics. Mr. Lovegrove was appointed District Operating Superintendent, Birmingham (Western), in 1951.

Mr. S. W. Smart, Operating Superintendent, Southern Region, British Railways, is retiring shortly. He will be succeeded by Mr. S. A. Fitch, Assistant Operating Superintendent, London Midland Region.

General Sir Brian Robertson, Bart., Chairman, British Transport Commission, has accepted the Presidency of the Railway Benevolent Institution for the year 1955, and Mr. J. W. Watkins, Chief Regional Manager, London Midland Region, has accepted the Chairmanship of the board for next year.

Mr. M. G. Mirchandani, who has been officiating as Deputy General Manager (P), Western Railway, India, since April 15, 1952, has been confirmed in this position, with effect from that date.

Mr. P. C. G. Peyton, Chief Mechanical Engineer, North Eastern Railway, India, has been appointed Chief Mechanical Engineer, Western Railway, India.

Mr. G. Viswanattan, Deputy Chief Engineer (Construction), Southern Railway of India, has been appointed Chief Engineer, Western Railway, India, as from July 9, this year.

Mr. H. Kinsey, Goods Agent, Kings Cross, Eastern Region, British Railways, has been appointed Assistant to Commercial Superintendent (Terminals), Liverpool Street, in succession to Mr. H. E. R. Bastin.

Major-General G. N. Russell, C.B., C.B.E., Chairman of British Road Services Board of Management, is on a short visit to the Gold Coast. By arrangement with the British Transport Commission, his expert services have been placed at the disposal of the Preparatory Commission for the Volta River Project, in order that he may advise the Preparatory Commission on transportation questions related to the Project.

The following appointments have been announced by the Southern Region, British Railways:—

Accountant's Department

Mr. E. W. Collins, Electrical Accountant, London Bridge, to be Assistant to Accountant (Civil and S. & T. Engineering), Victoria, *vice* Mr. F. A. Baker, retired.

Commercial Department

Mr. J. D. Atkins, Assistant District Traffic Superintendent, Redhill, to be Traffic Development Assistant, Waterloo, *vice* Mr. R. F. J. Surry.

Commercial and Operating Departments

Mr. F. V. Spillard, Assistant District Traffic Superintendent, Southampton, to be Assistant District Traffic Superintendent, Redhill, *vice* Mr. J. D. Atkins.

Mr. R. Shervington, Assistant to District Traffic Superintendent, Woking, to be Assistant District Traffic Superintendent, Southampton, *vice* Mr. F. V. Spillard.

PRESENTATION TO MR. IAN R. FRAZER

On Friday, September 17, at Charing Cross Hotel, London, W.C.2, Mr. J. C. L. Train, Member of the British Transport Commission, presented an inscribed silver salver to Mr. Ian R. Frazer, who retired from the position of Civil Engineer, Scottish Region, British Railways, on August 25, 1954.

At the presentation, which took place before a meeting of the Civil Engineering Committee, Mr. Train said that he had made a special point of being present to pay tribute to an old friend whom he was very sorry to see leaving the railway service.

Mr. J. I. Campbell, Civil Engineer, Eastern Region, who recalled that Mr. Frazer and himself had commenced their Railway service together with the Caledonian Railway over 40 years ago, also wished Mr. Frazer happiness in his retirement.

Others present at the ceremony included Messrs. J. Ratter, Chief Officer (Civil Engineering), British Transport Commission, Chairman, Civil Engineering Committee; F. E. Campion, Civil Engineer, Southern Region; A. Dean, Civil Engineer, North Eastern Region; A. C. Edrich, Assistant Civil Engineer, London Transport Executive; C. C. Inglis, Chief Research Officer, British Transport Commission; M. G. Maycock, Civil Engineer, Scottish Region; M. G. R. Smith, Civil Engineer, Western Region; J. Taylor Thompson, Civil Engineer, London Midland Region; A. K. Terris, Chief Officer Engineering (Maintenance), B.T.C.; J. A. R. Turner, Secretary, Civil Engineering Committee.

Mr. G. H. Taylor has been confirmed in the position of Assistant Carriage & Wagon Engineer, Eastern & North Eastern Regions, Doncaster, British Railways, in which position he has acted since January 1, 1954.

Mr. M. J. Chughtai, until September 1 General Manager of the North Western Railway, Pakistan, is on leave pending his appointment as General Manager of the Eastern Bengal Railway, Pakistan. Mr. S. B. Azid, the present General Manager of the Eastern Bengal Railway, was appointed to that position in June this year.

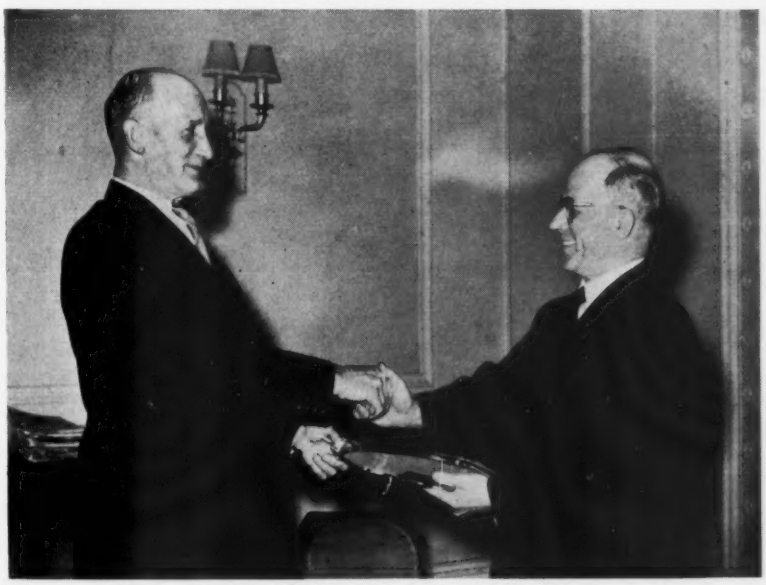
Mr. W. Venner, General Manager, and Mr. J. R. Best, Chief Mechanical Engineer, of the Sierra Leone Government Railway, are retiring.

Mr. A. C. Mukerji, Divisional Transportation Superintendent, Central Railway, India, has been appointed Deputy General Manager (Amenities) of that system.

We regret to record the death, on October 17, of Mr. J. H. Wadsworth, formerly Director of Imperial Chemical Industries Limited.

We regret to record the death on October 5, at the age of 67, of Mr. A. P. Coote, a Director of the Butterley Co. Ltd.

Mr. G. E. W. Peart, B.Sc.(Eng.) (London), Grad.I.C.E., District Engineer's Office, Plymouth, Western Region, British Railways, and Mr. D. S. Wills, Stud.I.C.E., c/o Chief Engineer, Nigerian Railways, have been elected associate members of the Institution of Civil Engineers.



Mr. J. C. L. Train presenting Mr. Ian R. Frazer with a silver salver on the occasion of Mr. Frazer's retirement

British Transport Commission Results for 1953

(*Concluded from page* 460)

purchasing power, and particularly the increasing number of television sets coming into use. These factors have adversely affected optional traffics in the last few years. By December, 1953, nearly a third of all households in the London Transport area had television sets. It is also estimated that in the summer about 600,000 cars were licensed in the London Transport area, some 10 per cent more than in the summer of 1952. The increasing number of private cars and motorcycles of various types has caused a fall in both optional and essential journeys on London Transport vehicles. Passenger journeys by rail have fallen rather less; possibly because of the higher proportion of essential travel by rail. Green Line coaches continued to show a growth of traffic. Mileages run by buses, trolleybuses, and trains were all reduced as a result of selective mileage reductions and other economy measures. The report states that traffic congestion in London is a factor which is adding progressively to the high level of road vehicle operating costs.

Higher Docks Surplus

A working surplus of £2·4 million, slightly higher than in 1952, is reported in respect of docks, harbours, and wharves; this continued the steady trend of improvement which has taken place since 1948, when there was a deficit of £1·3 million. In 1953 all the major groups of docks showed a surplus for the first time since vesting date.

Canals

A deficit of £83,000 from ownership of canals is attributed by the report to the cost of maintaining 850 miles of uneconomic character, with little, if any, traffic. Of the 2,100 miles of waterways owned by the Commission, about 1,250 miles, connecting important industrial areas with ports and the coalfields in South and West Yorkshire, Warwickshire, South Staffordshire, and South Lancashire, carry about 98 per cent of the traffic and yielded a net return of about £160,000.

Hotels and Catering

Hotels and restaurant cars both had deficits, of £11,000 and £650,000 respectively, but refreshment rooms had a net surplus of £190,000. Increased costs of wages and provisions had to be met in all these businesses, and the refreshment rooms alone spent 10 per cent more on provisions, wines, and spirits.

During 1953 over 10 million meals were served on trains. The financial results of restaurant cars have so far remained disappointing, but it is hoped that the partial switch-over, which began during 1953, from full-scale dining cars to buffet and cafeteria cars, will bring a substantially improved financial result in future years.

New Beyer-Garratt Locomotives for Rhodesia

Inspection of 4-8-2 + 2-8-4 *design with* 17-*ton axle load*

At the Gorton Works of Beyer Peacock & Co. Ltd. during the inspection. (Left to right) Messrs. E. S. Cox, R. A. Smeddle, H. Wilmot, and R. C. Bond

The new 4-8-2+2-8-4 Beyer-Garratt locomotive which was inspected by a party of guests at the Gorton Works of Beyer Peacock & Co. Ltd. on September 30 is one of a batch of 15 ordered by Rhodesia Railways and classified "20." The locomotives have a 17-ton axle load and weigh 225 tons.

One of the accompanying illustrations shows Mr. H. Wilmot, Chairman & Managing Director of Beyer Peacock & Co. Ltd., with three of the guests. The other two depict, in the cab of the locomotive, Sir Arthur Griffin, lately Chairman of the Rhodesia Railways Board, whose foresight in planning to meet great increases in traffic in Rhodesia was praised by Mr. Wilmot, and, accompanied by Mr. W. Cyril Williams of Beyer Peacock & Co. Ltd., Sir Gilbert Rennie, High Commissioner for the Federation of Rhodesia and Nyasaland.

The long-established connection between the manufacturers and Rhodesia Railways and the large number of Beyer-Garratt locomotives in service in Rhodesia were referred to by Mr. Wilmot in his welcoming speech to visitors at the inspection of which an account appeared in our October 8 issue.

(Left) Sir Arthur Griffin, and (right) Sir Gilbert Rennie and Mr. W. Cyril Williams in the cab of one of the locomotives

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CLAIM FOR INJURY: PASSENGER ON WRONG LINE.—A case in which a passenger has been denied compensation for an injury received while travelling on another route than that which his ticket specified has reached the French Court of Cassation. The incident dates back to 1946. The passenger, travelling from Marseilles to Roanne, rather than await a direct connection at Lyons, boarded a train routed via St. Etienne which would get him to Roanne sooner, though the distance is 37 miles longer. As he was getting into this train it jolted and threw him on to the line, where his arm was crushed by the wheels. In 1949 a Lyons court refused to entertain a claim for damages against the S.N.C.F. on the ground that his ticket, issued at Marseilles, and calculated on the shortest distance to Roanne, did not give him the right to take a longer route. The civil division of the Supreme Court upheld this judgment, pointing out that the accident occurred off the route normally envisaged by the contract.

PETROL LEAK IN TUNNEL: TRAINS DIVERTED.—Petrol leaking through the walls of a tunnel at Kentish Town, on the London Midland Region Midland Division main line, on October 19, caused trains to be diverted. Firemen were called to the tunnel to investigate. The petrol was leaking from a 1,000-gallon underground tank of a private garage above the tunnel roof. There was no delay to services. Later, after trains were allowed through the tunnel again, firemen remained on duty for some time as a precaution.

Delivery of Locomotives to Rhodesia

Allegations by Mr. Walter Elliot at Conservative Party Conference, of delay by the builders

Extracts are given below from *The Times* and *The Financial Times* relating to the alleged late delivery of locomotives to the Rhodesia Railways, the subject of a letter from Mr. H. Wilmot, Chairman & Managing Director of Beyer Peacock & Co. Ltd., reproduced in our correspondence columns this week, and of an editorial article on page 452.

In an account of the proceedings of the National Union of Conservative & Unionist Associations in Blackpool on October 7, *The Times* of October 8 describes how, "initiating a debate on Commonwealth and world trade (eventually carried), Mr. R. C. Buxton moved: 'That this conference wholeheartedly supports the Government in its policy of conferring increasing measures of self-government on members of the Commonwealth when they are ripe for it, and congratulates them on action already taken, but emphasises the need to maintain traditional ties of trade and culture, if need be by revisions of the General Agreement on Tariffs & Trade'."

The account adds: "Mr. Walter Elliot, M.P., said that in Southern Rhodesia development was being held up because goods ordered in this country were not arriving. Of 16 locomotives which should have been delivered between June and September only one had arrived. Now French locomotives which cost £10,000 more than the British type had been ordered because the people in Southern Rhodesia despaired of getting delivery from Great Britain. This was the sort of delay which needed the urgent attention of the British Government."

Under "Men and Matters," *The Financial Times* of October 11 says:

"British manufacturers would do well to take note of the speech made last week at Blackpool by Colonel Walter Elliot, who has recently visited Rhodesia as head of the Parliamentary delegation to present a mace to the new Parliament of the Central African Federation.

"Colonel Elliot said that in Southern Rhodesia development was being held up because goods ordered in this country were not arriving. Of 16 locomotives which should have been delivered between June and September only one had arrived. Now French locomotives, which cost £10,000 more than the British type, had been ordered because the people in Southern Rhodesia despaired of getting delivery from Great Britain. This was the sort of delay which needed the urgent attention of the British Government. And, indeed, from all over the world, this newspaper receives letters complaining of the unreliability of British deliveries.

Losing Ground

"No one should lightly disregard Colonel Elliot's remarks. He and Mr. Tom Johnson may be bracketed together as the most distinguished public men in Scotland. Colonel Elliot is a man of great experience, having held many of the highest offices under the Crown. . . .

"There can be no doubt that the failures of British exporters to fulfil their delivery contracts, and their ever-changing prices, are losing us ground in markets essential to Britain. We know the difficulties of exporters. But these difficulties will only increase if heed is not paid now to the growing resentment overseas against our frequent failure to keep to our promised time schedules. We must also regretfully add that certain exporters in this country are surely though unwittingly destroying the reputation of British industry for producing goods of first-class quality."

Telephone Equipment for Moving Subway Trains

Equipment for verbal communication between a New York subway train and trainmasters' and dispatchers' offices en route was demonstrated successfully in New York recently. The apparatus was installed in a Flushing Line train leaving from Times Square station.

The equipment was developed by the Union Switch & Signal Division of Westinghouse Air Brake Company in collaboration with Colonel S. H. Bingham, Executive Director & General Manager of the New York City Transit Authority, and Mr. Cameron Reed, Engineer of Line Equipment of the Authority. Colonel Bingham has said that the development of this communication system has now reached the point where definite consideration is being given to its installation on the Flushing Line in connection with the rehabilitation of that line. Serious consideration will be given to installing it on other rapid transit lines as soon as possible.

Third Rail Link

Unlike the inductive communications system which has been installed on railways for many years, the new equipment employs the third rail as a connecting link. The system consists of a microphone and a loudspeaker in the office of the trainmaster or dispatcher, and the message is carried through the 600 V. of direct current in the third rail by means of a frequency-modulated carrier. It is picked up by the contact shoe used on the train and fed to a loudspeaker in the motorman's cab. The motorman can reverse this procedure by calling the trainmaster or dispatcher at any time. In coaches now on order for the New York subway, the motorman can relay any information he chooses to his passengers over the built-in loudspeaker system.

Use of Condensers

This new system of voice communication uses the 600 V. alternating current signal power line that carries signals to points along the subway route. The signal lines are connected to the third rail by condensers. They allow the passage of carrier waves, but do not permit the current to pass in either direction between the lines and the third rail. The signal waves pass from the line to the third rail through the train contact shoes, which also transmit current to a loudspeaker in the motorman's cab.

Colonel Bingham has recommended that the new apparatus should be installed in 400 coaches now under construction for the Flushing Division. The system is said to give clear sound, even when the train is passing over points.

Among those present at the demonstration were Colonel Bingham and Mr. L. C. Hawkins, Member of the London Transport Executive.

E.C.A.F.E. Railway Meeting in Tokyo

The Third Session of the Railway Sub-Committee of the Inland Transport Committee, Economic Commission for Asia & the Far East, was held in Tokyo on October 13-18. More than 50 representatives attended from the United Kingdom, Burma, Cambodia, China, France, India, Indonesia, Japan, Korea, Malaya, British Borneo, Netherlands, Pakistan, Philippines, Thailand, U.S.S.R., U.S.A., and Viet Nam. The British delegates were Messrs. R. T. D. Ledwood, First Secretary of the British Embassy in Tokyo, and S. Potter, of the Traction Department, English Electric Co. Ltd. Also present were observers from the International Labour Organisa-

At the demonstration of telephone equipment in New York were (left to right) Senhor Renato de Azevedo Feio, Administrator, Santos Jundiahy Railway, Mr. L. C. Hawkins, Colonel S. H. Bingham, Mr. M. L. Pearlman, President, New York Central System, and Mr. T. M. Goodfellow, General Manager & Vice-President, Long Island Railroad

tion and the International Chamber of Commerce. Mr. Saburo Ohta of Japan was Chairman of the Session and Mr. S. M. Hasan of Pakistan, Vice-Chairman.

In an address of welcome, Mr. Mitsujiro Ishii, the Japanese Minister of Transport, said that the railway activities of E.C.A.F.E. were valued by all governments in the region.

The use of concrete sleepers, long-welded rails, improved water treatment in locomotive boilers, the improved diesel locomotives, and railcars were referred to by Mr. S. Ahmad, Chief of the Transport Division of E.C.A.F.E., who addressed the opening session on behalf of Dr. P. S. Lokanathan, Executive Secretary. Mr. Ahmad spoke also of the United Nations Regional Railway Training Centre which opened in April in Lahore, Pakistan. Trainees from Burma, China, India, Pakistan, and Thailand had attended the first session of this Training Centre, which is sponsored jointly by the United Nations Technical Assistance Administration and the Economic Commission for Asia & the Far East. Generous donations of demonstration equipment for the Centre have been received from Belgium, France, India, Japan, the Netherlands, Pakistan, and the United Kingdom. Mr. Ahmad urged the Asian countries for whose benefit the Centre had been established to make full use of the training facilities provided.

A special exhibit of rolling stock and machinery was arranged in connection with the conference, and the delegates were able to tour workshops, and see signalling and communications installations.

New American Bar at the Midland Hotel, Manchester

After being closed for some months for reconstruction, the American Bar at the Midland Hotel, Manchester, which is owned and managed by the British Transport Commission, reopened on October 14.

The new bar is in contemporary style with improved ventilation; it is triangular in shape to fit the structure of the building, and every device has been used to make the most of the possibilities offered by this space.

The general colour scheme is red, blue, and yellow, alternating with black and white, and the furnishings include chairs upholstered in tapestry, circular brass-legged tables with colour panels under glass tops, and bar stools mounted on a tiled step which skirts the bar front. The carpet is of alternating widths of dark purple and grey.

A stepped screen of transparent glass and hardwood lattice, with two armour-plate doors, separates the bar from a new passage leading to the foyer and enables it to be seen from the entrance hall of the hotel.

Improved Lighting

The walls of the room are in mahogany and white stepped panels, illuminated by concealed fluorescent wall lighting, and there are three recessed seats cushioned with Dunlopillo. The ceilings has white panels interspersed with egg-crate lighting units fitted with fluorescent tubes framed by hardwood ribs.

The bar front, 20 ft. long, is in mahogany with 10 small illuminated panels, and the opening is framed with hardwood lattice. The counter top is in white polished linoleum and the bar fittings are on a background of mirrors, with cooling shelves in a cupboard below.

An electric clock, mounted on the wall panelling, has a 12-in. dial of matt silver with bronze hour symbols.

A difficulty encountered in re-designing the room was the necessity to retain a large brick pillar essential as a structural feature. This has been overcome by dividing its surface into colour sections, thus reducing its apparent bulk.

The new bar was designed by Mr. John Carter, M.S.I.A., F.R.S.A., and the work was carried out under the direction of Mr. N. A. Barber, Architect, British Transport Hotels & Catering Services.

The principal contractors were Harris & Sheldon Limited, of Birmingham, which provided the wall, ceiling and bar panelling and fittings, and Thomas Scott & Co. (Manchester) Ltd., which was responsible for the structural work.

Staff & Labour Matters

Railway Wages

The hearing of the claim by the N.U.R. and A.S.L.E.F. on behalf of the footplate grades will take place before the Railway Staff National Tribunal under the Chairmanship of Sir John Forster, Q.C., on November 4 and 5.

Mr. J. Campbell, General Secretary of the N.U.R., writing in *The Railway Review* for October 15, explains the reasons why the N.U.R. executive committee decided to accept the settlement in connection with the salaries and wages of British Railways staff (other than footplate grades), details of which were given in last week's issue.

All the efforts of the executive committee in reviewing the wages structure, he says, were directed in the first place to obtaining a decent minimum wage and then building upon that what was deemed to be a satisfactory structure. Two points were in mind in examining the structure: the need to correct anomalies and the provision of added incentives. One of the major problems confronting the unions was the worsening financial position of the B.T.C., so much so that towards the end of the negotiations information was given that the Commission was losing an average of about £500,000 a week. In the circumstances it was very hard for the N.U.R. negotiators to persuade the Commission to expand by very substantial amounts the wages at present being paid.

Mr. Campbell emphasises that the discussions were not aimed at a general all-round increase but had to be confined to Clause 2 of the settlement of December, 1953, i.e., an examination of the whole wage and salary structure to correct anomalies and to give added incentives (including differentials) in desirable cases.

Attitude of A.S.L.E.F.

He refers to the attitude of the A.S.L.E.F., which refused an invitation from the N.U.R. to meet and discuss their common problems, particularly in relation to the wages structure, and says: "I can only reiterate what has been expressed by

View from foyer through to bar (right), showing décor and lighting scheme

the Executive Committee that some time whether sooner or later the unions and the membership of the unions will have to come together in the true spirit of trade union brotherhood."

On the question of the footplate grades Mr. Campbell is satisfied that a fair and reasonable settlement, having regard to the financial position of the Commission, could have been reached in direct negotiation with the Commission without resource to the arbitration on which the A.S.L.E.F. has insisted.

On the financial position of the Commission, Mr. Campbell is sure that whether the easement is by Government subsidy or the acceptance by the Government of certain financial commitments of the B.T.C., these measures will not of themselves be a cure. Traffics, on the railways particularly, are declining and he feels that those who demanded nationalisation should set about arresting this decline in further and fuller consultation with the Commission. If the present trend continues and more and more traffic is lost there will be an accelerated worsening of the N.U.R. bargaining power.

London Transport Bus Strike

London Transport bus drivers and conductors decided on October 18 to resume work on October 20 after an unofficial strike which lasted six days.

The dispute arose when drivers and conductors decided to ban overtime so as to press their demands for a minimum wage of £10 10s. a week. The ban on overtime necessitated a revision of schedules to provide adequate services. This led to the Dalston depot ceasing work and other depots took similar action.

After a delegate meeting on October 18 it was agreed to resume normal working on the following basis: (*a*) The unofficial overtime and rest-day working ban, which before the strike was being operated by a number of London Transport garages, is lifted; (*b*) emergency schedules, introduced to overcome staff shortages aggravated by the ban, are withdrawn; and (*c*) adjustments to schedules which may be necessary will be dealt with locally by joint agreement.

Sir John Elliot, Chairman of London Transport, said that the London Transport Executive was prepared to resume negotiations as soon as work was back to normal; but there would be no compromise with the unofficial strikers and the Executive would only negotiate with union officials.

He stated also: "I have had a fairly long experience in labour matters, and I have found that there is always room for some give and take in official negotiations with the unions." He wished to make it perfectly clear that there was none where the strike was organised by unofficial action, and against the clearly stated advice of the Transport & General Workers' Union. "I have been at London Transport just a year now" he added, "and I find that the vast majority of our busmen and women are a very good lot, with a real sense of public service." London Transport must have regard, first of all, to its obligations to the London public, and provided that the length of the busmen's working week, now considerably shorter than that in other industries, could be brought more into line with what others were doing, he saw no reason why they should not reach a settlement fair to public and staff alike. The partial stoppage was causing much hardship to Londoners.

Contracts & Tenders

An order has been placed by the British Transport Commission with the Metropolitan-Cammell Carriage & Wagon Co. Ltd. for 60 19-ton hopper wagons.

The Birmingham Railway Carriage & Wagon Co. Ltd. has received an order for a second class sleeping car for the Nigerian Railway. This is additional to the order for one sleeping car of this class already in hand. The car will be built to the supervision and inspection of the Crown Agents for Oversea Governments & Administrations.

The Iraqi State Railways have placed an order for ten 2-8-2 superheated oil-burning steam locomotives with Maschinenfabrik Esslingen. They will be built to the supervision and inspection of the Crown Agents for Oversea Governments & Administrations.

S.A. La Brugeoise et Nicaise & Delcuve has received an order for six bogie goods brake vans for the Iraqi State Railways. They will be built to the supervision and inspection of the Crown Agents for Oversea Governments & Administrations.

An order for 250 bogie tank wagons has been placed in Yugoslavia by the Turkish Ministry of Defence. They are being built at the following works: D. Djondjevic Gosa (Smederevska Palanka); Djura Djalkovic (Slavonski Brod); 14 October (Krusevac); Kraljevo; and Stanko Paunovic (Nish).

British Railways, Southern Region, have placed orders as follows:—

W. H. Gaze & Sons, Ltd., London, S.W.15: new concrete retaining wall, Bricklayers Arms Rufuse Loading Dock

The Cleveland Bridge & Engineering Co. Ltd., London, S.W.1: supply and delivery of steelwork for reconstruction of Bradford Peverell Viaduct and Frome Viaduct between Dorchester West and Stratton; renewal of superstructure, Park Street Bridge and Cannon Street

John Mowlem & Co. Ltd., London, S.W.1: reconstruction of river wall—upper section, Deptford Wharf

The Cementation Co. Ltd., London, S.W.1: piling to foundations, new signal box, at Belvedere

George Simpson (London) Ltd., London, S.W.1: re-roofing of carriage shed, Brighton

Matthew Hall & Co. Ltd., London, N.W.1: installation of air cooling plant, British Railways Travel Centre, Rex House, Lower Regent Street

W. R. Payne & Sons, Shipley, Yorks, renovations, Etchingham station

A. Bagnall & Sons Ltd., Bristol: renovations, Salisbury Station and Milford Goods

W. A. Fussell, Southampton: new building and additional washroom facilities, Eastleigh Locomotive Works

British Railways, North Eastern Region, have placed orders as follows:—

Samuel Butler & Co. Ltd., Stanningley: provision of new ground floor to general stores, Darlington Locomotive Works

Henry Berry & Co. Ltd., Leeds, 10: one hydraulic press at York Carriage Works

Brayshaw Furnaces & Tools Limited, Manchester, 12: one gas-fired furnace at York Carriage Works

The High Commissioner for India invites tenders for axleboxes and axlebox springs. See under Official Notices on page 476.

The Special Register Information Service, Export Services Branch, Board of Trade, reports that the closing date for tenders for railway material and equipment for Chile detailed in our September 17 issue is now November 15.

The Special Register Information Service, Export Services Branch, Board of Trade, reports a call for tenders for 93 diesel hydraulic locomotives, issued by the Mechanical Department, Egyptian Republic Railways, Saptia, Cairo.

Tenders should reach the General Manager, Egyptian Republic Railways, Cairo Main Station, by 11.30 a.m. on January 24, 1955.

A copy of the tender documents may be purchased, price £10 (Egyptian), from the General Manager, Egyptian Republic Railways. Local representation is essential.

The Special Register Information Service, Export Services Branch, Board of Trade, reports that a call for tenders for wooden sleepers for the Spanish National Railways has been issued by the Foreign Operations Administration (F.O.A.). They must be suitable for the Spanish broad gauge and comply with the U.S. Federal Specifications MM-T-371b, with the following remarks:—

Type I (ordinary cross sleepers). In accordance with the option contained in point 6.1 of the specification the sleepers shall conform in cross-section to any of the three forms shown in the drawing (see original) with the dimensions shown therein for length, 2·60 m.

Type II (sleepers for points). Prismatic rectangular and of the following dimensions: (*a*) 3·00 × 0·24 × 0·14 m.; (*b*) 3·50 × 0·24 × 0·14 m.; (*c*) 4·00 × 0·24 × 0·14 m.; (*d*) 4·50 × 0·26 × 0·14 m.

The dimensions given for each type of sleeper are the minimum, the tolerances appearing in point 3·3 of the U.S. Federal Specifications being admitted.

The sleepers must be manufactured from timber of European or American species of oak of the genus Quercus. They must not be creosoted. The approximate quantity of sleepers of each type is as follows:—

	Per cent
Normal type I	99
Type II (*a*)	0·20
Type II (*b*)	0·32
Type II (*c*)	0·23
Type II (*d*)	0·25

Tenders should reach the Director, Red Nacional de los Ferrocarriles Españoles, Principe Pio, Madrid, by November 29. A copy of the tender documents (in Spanish), including specifications and conditions, may be inspected in Room 728 at the Branch (Lacon House, Theobalds Road, W.C.1) until October 30, after which it may be borrowed by United Kingdom firms in order of receipt of applications.

The Special Register Information Service, Export Services Branch, Board of Trade, reports that a call for tenders for track components for the Spanish National Railways has been issued by the Foreign Operations Administration. The following are required:—

480 *tonnes* fishplates
185 *tonnes* soleplates
2,345 *tonnes* intermediate plates
100 *tonnes* fishplate screws with flat and crower washers
640 *tonnes* of screw-spikes

in accordance with RENFE V-5/10 in. drawing

The above accessories are for use with 45 kg. per m. f.b. rail. This material must be manufactured in accordance with the technical specification of the RENFE of

1949, Number 102, for supply of fishplates and soleplates, and Number 103 for supply of screws and screw-spikes.

Tenders should reach the Director, Red nacional de los Ferrocarriles Españoles, Principe Pio, Madrid, by November 25. A copy of the tender documents (in Spanish), including specifications and conditions, may be inspected in Room 728 at the Branch (Lacon House, Theobalds Road, W.C.1) until October 30, after which it may be borrowed by United Kingdom firms in order of receipt of applications.

The Director-General of Supplies & Disposals, New Delhi, invites tenders as follows:—

(*a*) 11,400 shackle hook couplings (b.g.); 9,400 screw coupling minor assemblies
(*b*) 2,250 coupling details (ten items)
(*c*) 348 Ross pop safety valves, 3 in. dia.
(*d*) 15 cranks for class "FM" locomotives
(*e*) 2,004 casings for buffer short-case (b.g.); 835 buffer casings

Tenders quoting the following references:—

(*a*) SRI/16917-E/IV; (*b*) SRI/16845-E/III; (*c*) SRI/18869-E/II; (*d*) SRIA/17537-E/1; (*e*) SRI/16844-E/III

should reach the Director-General of Industries & Supplies, Shahjahan Road (Section SRI), New Delhi, by 10 a.m. on (*a*) October 22; (*b*) November 5; (*c*) November 8; (*d*) November 9; (*e*) November 11.

Forms of tender are only available for purchase in India from the Deputy Director-General (Supplies), Directorate General of Supplies & Disposals, New Delhi; Director of Supplies & Disposals, Bombay or Calcutta; Deputy Director, Supplies & Disposals, Madras.

If the date for the receipt of tenders does not allow sufficient time for tenderers to obtain tender forms from India, they may submit their quotation to India in their own letter form or by telegram so long as all essential particulars are given and provided they simultaneously apply for the tender forms and return them duly completed as quickly as possible on the basis of advance quotations already submitted.

A copy of the tender form may be examined at the India Store Department, 32-44, Edgware Road, London, W.2, on application to the "CDN" branch and the drawing seen at the offices of Hodges, Bennett & Company, 59-60, Petty France, London, S.W.1, from whom copies may be obtained at a fixed price per sheet.

RUBBER SUSPENSION IN BRITISH RAILWAYS COACHING STOCK.—In the article on this subject in our October 15 issue it was stated in error that designs for an all-rubber bogie suspension would include the fitting of "rubber-bonded metal-to-metal swing links." These words should have read "rubber bonded to metal swing links."

WESTERN UGANDA EXTENSION. — The Uganda Government is to seek approval of the Legislative Council for the advancement of an additional £1,000,000 to the East African Railways & Harbours for the completion of the new western extension of the line from Kampala to Kasese at the foot of the Ruwenzori Mountains. The Legislative Council passed resolutions in 1951 and 1952 authorising the advance of £4,000,000 for the western extension. It is expected that the line will be ready for traffic early next year. In 1952 it was thought that the original vote would be more than adequate but engineering problems have been greater than expected.

Notes and News

Road Transport Foreman Required.—Applications are invited for the post of road transport foreman required by the Nigerian Railway for one tour of 12 to 24 months in the first instance. See Official Notices on page 476.

Assistant General Manager Required.—Applications are invited for the post of Assistant general manager, between 35 and 45 years of age, required by an engineering firm in the North Midlands. See Official Notices on page 476.

W-D Liquid Soap Dispenser.—The address of Waddington & Duval Limited, which has evolved the soap dispenser described and illustrated in our October 15 issue, should have been given as 35, West Hill, London, S.W.18.

Increased Fares Refused.—An application for an increase in fares amounting to £40,000 a year made by the East Kent Road Car Co. Ltd. was refused by the South-Eastern Area Licensing Authority at Canterbury on October 8. The increase was claimed to be needed to meet the rising cost of wages.

The Institute of Transport: Anniversary Luncheon.—The thirty-fifth anniversary luncheon of the Institute of Transport will be held on Wednesday, November 10, at 12.30 for 1 p.m., at the Connaught Rooms, Great Queen Street, London, W.C.2. The principal guests at the luncheon will be Mr. J. A. Boyd-Carpenter, Minister of Transport & Civil Aviation, and Field Marshall Sir John Harding, Chief of the Imperial General Staff.

Fire in District Line Train.—A fire which broke out in the undercarriage of a District Line coach on October 13 was extinguished by the motorman. The fire is reported to have started when wires hanging from the coach came into contact with the live rail as the train was travelling between Southfields and East Putney. A smouldering fire on the permanent way was also extinguished. Normal services were resumed after a delay of some 90 min.

C.P.R. $25,000,000 Issue.—The Canadian Pacific Railway is making an issue of $25,000,000 of 3¾ per cent collateral trust bonds. They are for 18 years, maturing on November 15, 1972. The issue will be a direct obligation of the company and will be specifically secured by a pledge with the trustee of the perpetual 4 per cent consolidated debenture stock, the senior security of the company, in the ratio of $120 principal amount for each $100 amount of new collateral bonds.

Antofagasta (Chili) & Bolivia Railway Co. Ltd.—The Directors of the Antofagasta (Chili) & Bolivia Railway Co. Ltd., announce that, after taking into account loss on exchange (debited against provision made in previous year), interest on debenture stocks, provision for taxation £253,051, renewals £146,764, exchange reserve £175,000, and payment of arrears of dividend in respect of the years 1946 and 1947 on the 5 per cent cumulative preference stock, there is a balance on net revenue account for the year 1953 of £440,303 to be carried forward to the year 1954, compared with £447,594 brought forward from 1952. Payment of 2½ per cent (less income tax) in respect of arrears of dividend on the 5 per cent cumulative preference stock for the second half of the year 1947 will be made on November 19 to stockholders recorded in the register at the closing of the books at 3 p.m. on October 28.

Southern Railway Association. — The annual reunion luncheon of the Southern Railway Association, which was formed on the absorption of the Southern Railway into British Railways, was held on October 18, at the Charing Cross Hotel, London. Colonel Sir Eric Gore-Browne, last Chairman of the Southern Railway Company, presided. Among those present were Sir Francis Dent, Major-General Gilbert Szlumper, Mr. Henry Brooke, M.P., Sir Eustace Missenden, and Sir John Elliot.

Strabane-Londonderry Line to be Closed.—The Ulster Transport Authority has informed Strabane Rural Council that services on the 3 ft.-gauge Strabane-Londonderry section will be discontinued after December 31. The annual operating expenditure is given as £19,000 and receipts only £3,600.

Westinghouse Brake & Signal Co. Ltd. Exhibits at Dairy Show.—At the Dairy Show to be held at Olympia on October 26-29, Westinghouse Brake & Signal Co. Ltd. exhibits will include examples of VZ chargers in each of the three frame sizes in production. These will be representative of the many differing types available in each size. The smallest size is suitable for the recharging of pedestrian controlled vehicles, and the larger sizes for driven types of vehicles and battery-operated fork-lift trucks. The display will be backed with photographs.

Services in Scotland and Cumberland Dislocated by Floods.—Continuous rain in much of Scotland and the North throughout last weekend caused flooding which dislocated railway services on some sections. Flooding between Lockerbie and Beattock on the main Carlisle-Glasgow line entailed diversion of trains via Kilmarnock, and single-line working had to be enforced between Gretna Green and Gretna Junction after part of an embankment had given way. Single-line working was necessary also at the approaches to Buchanan Street Station, Glasgow, because of heavy falls of rock and earth. Water broke through the sea wall at Parton, near Whitehaven, Cumberland, closing a stretch of line. The Maryport-Carlisle section was closed after a landslide early on Monday had cut the line at Dearham Bridge and ballast had been washed away at Bullgill. On Tuesday the Silloth-Drumburgh section was also cut.

Neepsend Steel & Tool Corporation Limited.—The directors of Neepsend Steel & Tool Corporation Limited have recommended a final ordinary dividend of 7½ per cent, which is the same as that for the previous year, plus a bonus of 27½ per cent (25 per cent), making 42½ per cent for the year to March 31 last (40 per cent). An additional dividend of 4 per cent (same) is to be paid on the 6 per cent participating preference shares. It is also proposed to issue one fully paid ordinary 5s. share for every 15s. of ordinary stock held. Consolidated profits, before tax, were £813,820 (£920,266 adjusted). Other profits and receipts added £49,788 (£56,682). Net profits, after all charges, including tax of £481,823 (£567,480), were £381,046 (£408,812). General reserve receives £65,000 (£50,000). Preference dividends take £1,713 (£1,666)

and ordinary dividends £142,984 (£133,426). The carry-forward of the parent company is £39,631 (£36,814) and that of the subsidiaries £1,370,417 (£1,201,885).

L.M.R. Station Gardens Competition.—The shield for the best station garden in the London Midland Region has been won for the sixth year in succession by Horton-in-Ribblesdale, 850 ft. above sea level on the Settle-Carlisle line, where the winter climate is generally severe. The display included over 3,000 bedding plants, besides rose trees, rockeries, and several varieties of orchids. There are also special coats of arms setting out the local industries and history, and periodicals are placed in the waiting rooms. These may be taken by the passengers for a contribution to the Railway Servants' Orphanage, a total of £17 having been raised by this means this year.

Iron and Steel Production in September.—Steel production in September averaged 372,300 tons a week, having made a satisfactory recovery after the holiday period. This output exceeds by 25,800 tons the previous best September output of 346,500 tons in 1953. The weekly average for the third quarter of 1954 was 324,300 tons, compared with an average of 308,100 tons for the same quarter last year. The equivalent annual rates are 16,865,000 tons and 16,019,000 tons, but the equivalent annual rate for the September production this year is 19,358,000 tons. Output during the first three quarters of the year has been at the record annual rate of 18,320,000 tons, compared with 17,390,000 tons for the equivalent period of 1953. Pig iron production in September averaged 222,900 tons a week, rather less than the 227,400 tons in August, but comparing with 213,900 tons in September 1953. The fall from the August figure was attributable to the fact that several furnaces were out of production for relining. Production for the quarter was at an annual rate of 11,476,000 tons compared with 10,787,000 tons for the third quarter of 1953.

Special Train Conveying Emperor of Ethiopia.—The special train which conveyed the Emperor of Ethiopia from Portsmouth to London on October 14 was hauled by "Battle of Britain" class locomotive No. 34088, *213 Squadron*. It was composed of five Pullman cars and van. The route was via Guildford, Leatherhead, Mitcham Junction, Tulse Hill, and Herne Hill to Victoria (Eastern).

British Columbia Electric Railway Co. Ltd. Revenue.—The consolidated gross revenue from operations of the British Columbia Electric Railway Co. Ltd., for 1953, was $50,055,304, compared with $47,041,786 for the previous year. Operating income was $5,393,187 ($4,703,412). Debenture and bond interest, and so on, took $2,314,905 ($2,043,783), leaving net income at $3,326,137 ($2,996,559). Preference dividends took $200,068 ($195,394), preferred ordinary dividends $1,098,000 ($948,240), and deferred ordinary dividends $2,068,072 ($1,817,832). The amount carried forward was $172,025 ($107,028).

Varley Pumps & Engineering Limited Exhibits at Baghdad.—The Varley Pumps & Engineering Limited is exhibiting at the British Trade Fair to be held in Baghdad from October 25 to November 2. The wide range of pumps to be shown will include the Peerless deep-well turbine pump available in capacities of 50-750 gal. per min. for lifting from 5 to 500 ft., and D.H.100 and D.H.50 double-helical gear pumps, which are designed for forced lubrication and fuel transfer work. Other exhibits will include single-helical and internal gear pumps for handling diesel oils and solvents, as well as HPT 10 units for testing diesel-engine injectors.

Glasgow Railway Electrification.—Representatives of Glasgow Corporation and the British Transport Commission met in Glasgow on October 19 for discussions under the chairmanship of Sir Ian Bolton, Member of the Commission. It was decided to set up a working party to survey as a preliminary but urgent measure the special transport problems of two representative areas on the north and south banks of the Clyde. These are believed to be the new housing scheme at Drumchapel, where 8,000 houses are being completed, and Castlemilk, where an equally large housing scheme is being developed. The British Transport Commission had intimated that it was prepared to electrify certain suburban lines provided it could be assured of the complete co-operation of Glasgow Corporation. The lines mentioned then were those between Airdrie and Helensburgh and Balloch, and the Cathcart circle, with extensions to Rutherglen and Castlemilk. The full scheme would cost £11,000,000, with a first instalment costing fully £5,000,000.

Forthcoming Meetings

Until end of year.—"Popular Carriage" Exhibition (Two centuries of carriage design for road and rail) in the Shareholders' Meeting Room, Euston Station, London, N.W.1. Weekdays 10 a.m. to 7 p.m.; Sundays 2 to 7 p.m.

October 26 (*Tue.*).—British Railways, Southern Region, Lecture & Debating Society, at the Chapter House, St. Thomas' Street, London, S.E.1, at 5.45 p.m. Paper on "The mining industry," illustrated by lantern slides, by Mr. Lambton Wilkinson, Lectures Officer, National Coal Board.

October 26 (*Tue.*).—Institute of Transport, at 80, Portland Place, London, W.1, at 6 p.m. Visual aids meeting.

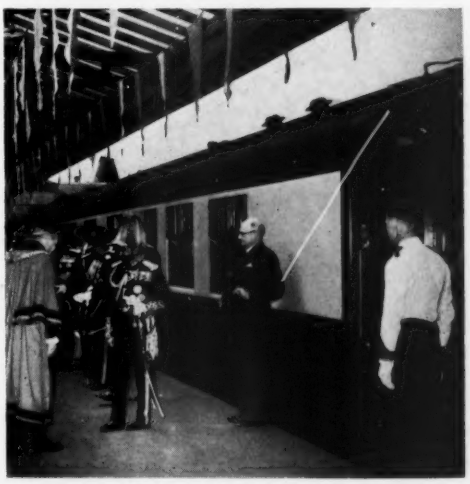
October 27 (*Wed.*).—Railway Students' Association, at the London School of Economics & Political Science, Houghton Street, London, W.C.2, at 6.30 p.m. Presidential address by Sir Reginald Wilson.

October 28 (*Thur.*).—Stephenson Locomotive Society, at 32, Russell Road, Kensington, London, W.14, at 6.30 p.m. Reminiscent talk: "Behind the scenes on the Midland, 1907-10," by Mr. R. A. H. Weight.

October 28 (*Thur.*).—Institution of Railway Signal Engineers, at the Institution of Electrical Engineers, Victoria Embankment, W.C.2, at 6 p.m. Paper on "Signal engineering in Germany today," by Mr. G. Reschuh.

October 29 (*Fri.*).—Institution of Railway Signal Engineers, at the Criterion Restaurant, Piccadilly, London, W.1, at 6.15 for 6.45 p.m. Annual dinner and dance.

October 29 (*Fri.*).—Institution of Mechanical Engineers, at 1, Birdcage Walk, Westminster, S.W.1, at 5.30 p.m. Nineteenth Parsons Memorial Lecture on "Factors influencing the continuing development of the steam turbine," by Mr. F. Dollin.



At Portsmouth & Southsea Station on October 14, showing (left) the Emperor of Ethiopia about to entrain, and (right) the special Pullman train hauled by "Battle of Britain" class locomotive

November 1 (*Mon.*).—Institute of Transport, Metropolitan Section, at 80, Portland Place, London, W.1, at 5.30 for 6 p.m. Visit of President, and a symposium on railway traction by Mr. R. F. Harvey (technical), and Mr. E. W. Rostern (operating).

November 2 (*Tue.*).—Stephenson Locomotive Society, Midland Area, at the B.T.H. Social Club, Coventry, at 7.15 p.m. Paper on "Locomotives of the L.N.W.R., Part 2," by Mr. L. W. Perkins.

November 2 (*Tue.*).—Permanent Way Institution, Leeds & Bradford Section, in the British Railways Social & Recreational Club, Ellis Court, Leeds City North Station, at 7 p.m. Paper on "The Manchester-Sheffield-Wath electrification scheme," by Mr. A. H. Emerson, Electric Traction Engineer, Manchester, L.M.R.

November 4 (*Thur.*).—British Railways, Western Region, London, Lecture & Debating Society, in the Headquarters Staff Dining Club, Bishop's Bridge Road, Paddington, W.2, at 5.45 p.m. Paper on "The railway medical service," by Dr. C. T. Newnham, Regional Medical Officer.

November 5 (*Fri.*).—The Railway Club, at 57, Fetter Lane, London, E.C.4, at 7 p.m. Paper entitled "From Charing Cross to Reading," by Mr. H. A. Vallance.

November 5 (*Fri.*).—The Locomotive Society of Scotland, at 302, Buchanan Street, Glasgow, C.2, at 7.15 for 7.30 p.m. Annual General Meeting.

November 6 (*Sat.*).—Stephenson Locomotive Society, Sheffield Centre, at the Y.M.C.A., Fargate, at 6.30 p.m. "A Great Western miscellany," by Mr. P. J. Garland.

November 6 (*Sat.*).—Stephenson Locomotive Society, Scottish Area, at 302, Buchanan Street, Glasgow, at 3 p.m. Paper on "Rail fans over the water (U.S.A.)," by Mr. J. B. Aird.

Railway Stock Market

The London bus and dock strikes had no marked effect on sentiment in stock markets earlier in the week. In fact, many industrial shares moved still higher in price under the influence of increased dividends and free scrip issues. News of big production plans, particularly by the leading motorcar manufacturers, was a helpful influence as it indicates widespread confidence in the future. On the other hand, these developments are, of course, also a pointer that competition will become extremely keen, and that in many directions it will be only those companies which can expand production and work on a much reduced margin of profit whose earnings will increase in the future. At the present time, however, there is a tendency in stock markets not to take more than a medium-term view and to emphasise that earnings of many companies will show further good expansion for the current year. It is largely because of the belief that dividends to be announced in the first half of next year should record further good rises that many industrial shares remain in strong demand. In fact the industrial section of the Stock Exchange continues to attract main attention, and interest in overseas and foreign railway stocks remained restricted.

The best feature in Dominion rails was a revised demand for White Pass, which in active dealings have strengthened to $32½, buyers coming in partly because of general improvement in demand for Canadian securities. White Pass convertible debentures and loan stock remained at £110 and £33 respectively. Canadian Pacifics firmed up to $48⅝, while 4 per cent preference stock improved to £69½ and the 4 per cent debentures were £91½.

Improved demand developed for Antofagasta preference stock, which, compared with a week ago, has risen from 44½ to 47, a new high level for the year. The ordinary stock moved fractionally lower at 8, and the 5 per cent (Bolivia) debentures remained at 71. Costa Rica second debentures improved to 53½, the first debentures remained at 67½ and the ordinary stock at 11. Dorada ordinary stock firmed up to 81½; the 6 per cent debentures were quoted at 92½. Guayaquil & Quito 5 per cent first bonds changed hands at 59½, and business at 29½ was again recorded in Chilian Northern 5 per cent debentures.

Mexican Central "A" debentures firmed up to 74. Nitrate Rails shares remained at 19s. 9d. and Taltal shares 13s. 6d. Paraguay Central 6 per cent debentures changed hands at 20½. San Paulo ordinary units were again 3s. 6d. and Brazil Railway bonds kept at 7½. United of Havana second income stock and consolidated stock were 35¼ and 5⅛ respectively.

Midland of Western Australia strengthened to 24, the first debentures were again 92½ and business in the second debentures was recorded at 43. Nyasaland Railways 3½ per cent debentures were 79½, while the shares were again quoted at 5s. In Indian stocks, Barsi remained at 92½ and West of India Portuguese 5 per cent debentures were quoted at 87½.

Firmness was maintained in engineering and kindred shares. After easing, Babcock & Wilcox strengthened to 72s. John Brown moved up to 43s. 3d. on attention drawn to the good yield and the diversified engineering and other interests of the group. T. W. Ward, after easing, rallied to 55s. 6d. on further consideration of the financial results. There was a good deal of business in Tube Investments in response to higher dividend hopes, but after a further rise, the price came back to 75s. Guest Keen attracted a little profit taking and receded to 65s. 9d. Elsewhere, Ruston & Hornsby were 55s. while British Aluminium strengthened to 38s. 6d. Among motor shares, Fodens rose further to 62s., Leylands were 101s. 6d. and A.C.V. 79s. 3d. Thornycroft at 48s. 1½d. lost part of an earlier rise. In other directions Vickers showed small fluctuations around 39s. 6d. At one time this week the premium on John Summers shares, which are 5s. paid, was up to 9d. and steel shares generally have been more active, the good yields attracting rather better demand. It continues to be widely assumed that the next offer of steel shares will be either by Dorman Long or Colvilles.

Among shares of locomotive builders and engineers, Beyer Peacock strengthened from 41s. 6d. to 41s. 9d., Charles Roberts 5s. shares remained at 9s. and Hurst Nelson at 39s. 9d. Birmingham Carriage eased to 27s. 7½d., compared with 27s. 10½d. a week ago. North British Locomotive have risen from 15s. 1½d. to 16s. 6d. Vulcan Foundry remained at 29s. 3d., Gloucester Wagon 10s. shares eased to 17s. and Wagon repairs 5s. shares at 13s. 9d. were virtually the same as a week ago.